Gleanings in Bee Culture

Established 1873

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JUNE, 1937

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DOVETAILS made to fit snugly—Takes more than 10 lbs. to pull them apart.

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1897-1937

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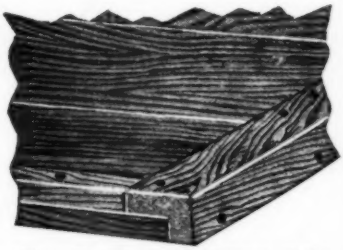
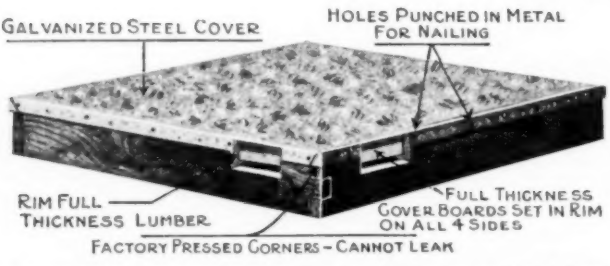


Close Up View of a Corner of the Inner Cover Showing its Construction.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HOLES PUNCHED IN METAL FOR NAILING
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"Extract Twice as Much"

"We extract twice as much honey with our 'LIFETIME' as with the old 8-frame extractor. It operates easier than any other extractor I have ever seen, and it does not spray honey over the top of the tank. I like it's fine construction. It looks like it will last a lifetime—and then some.
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A unique device that every beekeeper interested in keeping an accurate record of his queens should have. Outfit will number 792 queens without any possible injury. Easy to do.

These Eckhardt queen markers were recently imported. Our stock is limited to 10 sets. We suggest you send your order at once.

Only $1.50 postpaid. Directions included.

The A. I. Root Company, Medina, Ohio

Sold from Medina only

SEMI-MONTHLY HONEY REPORT

U. S. GOVERNMENT REPORT

Information from Producing Areas (first half of May).

California Points: Southern California—The weather has been generally clear, with temperatures ranging mild to warm, though in some areas cool weather has retarded the flow. Bees are generally up to peak strength, with many beekeepers reporting 10 to 14 frames of brood. The fact that some colonies had to build up on the orange and sage flows will lessen the surplus crop. Scale colonies in orange groves reported averaging 5 to 6 pounds a day, with fewer colonies in the groves than usual and more in the sage locations. Extracting has already started in some orange areas, with beekeepers reporting from 36 to 60 pounds to the colony; others report that the orange flow will continue for another week or two. Sage is also being extracted but the flow should continue for at least a month. More rain is needed to insure the large buckwheat crop originally anticipated but even present prospects appear good. The honey so far taken off from both orange and sage is said to be of fine quality and ranging extra white to water white in color. Demand has continued light, with only limited offerings by beekeepers of old crop honey and the market nominally steady. Sales by keekeepers in ton lots or more, f. o. b. Southern California delivery points, range as follows: new crop, White Orange 6c per lb., Sage, White to Extra White 6c; old crop, Buckwheat-Sage, Extra Light Amber 5⅜-5⅝c, Light Amber 5¼-5⅜c, small pails 7 2/5c; Mixed Flowers 60s large lot Light Amber 5c per lb.

Central California—Temperatures have been slightly above normal, with widely scattered showers. Vegetation is still backward, though approaching normal as weather and crop conditions have been more favorable. Incense cedar is producing some honey dew in Yosemite Valley. Beekeepers generally are offering remaining supplies of old crop honey freely but as the outlook for a heavy crop of new honey becomes more definite some tendency toward lower prices is reported and buyers are showing little interest in purchasing more than enough for current needs. Sales by beekeepers in ton lots or more f. o. b. Central California delivery points range: White to Extra White Orange 6¾-7¼c; Light Amber Mixed Flowers 4½-5c per lb.

Northern California—Temperatures have been slightly above normal with conditions favorable for growing plants, except that more moisture is needed in some of the northern areas and in occasional areas where conditions are aggravated by drying winds. Most colonies are populous and in good condition. Mustard is yielding more than sufficient nectar and pollen for present colony needs and the weight of the colonies is increasing somewhat. Bees are also working on black locust, blackberries, alfalfa, various weeds and on deciduous fruits in the upper elevations. Manzanita is not yielding this year as well as usual. The first cutting of alfalfa has been made. Honey movement has been light with prices steady. Extra Light Amber Star Thistle reported sold by beekeepers at 6¾-7¼c per lb., and Light Amber Mixed Flowers at 4½-5c per lb. f. o. b. Northern California delivery points.

Pacific Northwest: West of Cascades—Following the wettest April on record, the weather has cleared and bees in Western Washington are building up well on soft and vine maple, dandelions, mustard and other wild flowers, which are yielding well in favorable weather. Vetch will soon be in bloom, but vetch acreage is short. Colonies generally are light in stores with some feeding necessary, and many colonies in poor shape with old bees dying off faster than new bees hatch. Bees in the fireweed district, however, have gained considerably, and have ample pasture coming on if the weather is favorable. Supplies of honey are getting low and local buyers are having difficulty finding supplies of good quality. Sales reported White Fireweed, 60s 8c per lb.; small pails 10 1/5c per lb. Dealers paying 23c per lb. for beeswax delivered Portland. East of Cascades—Temperatures have been cooler than normal, with more than the usual amount of rain and wind. Because of the unfavorable weather colonies were not able to accumulate as much honey as usual from early fruit bloom but recently bees have been working actively on the heavy fruit bloom. Colonies have plenty of pollen and from two to seven frames of brood. Dandelions and various willows are also furnishing some nectar and pollen when bees can work on them. The season appears to be about two weeks late. More bees than usual have been used for pollination in the orchards, with the rental price ranging from $2.50-3.00 per hive in the Walla Walla area. Bees should be in fairly good shape for the alfalfa flow. Few sales reported, 60s White Alfalfa 7c per lb., small pails 8½-8⅔c per lb.

Intermountain Region—Sales of honey are lessening with the approach of warmer weather, and are chiefly confined to small lots for nearby sales, though several carlot sales have been reported. Although prices generally have not advanced, in some sections the retail price has gone up 10 percent. Stocks everywhere are sufficiently light so that no carry-over of importance is looked for. Sales reported Sweet Clover-Alfalfa, carlots, 1 car White 5½c, 1 car White to Water White 5.95c, I small car Extra White 5½c, less carlots White to Water White 5¼-6c, some at 5½c with cans returned, small pails 6.9-8c, few 8½-9c. Beeswax, 22-25c per lb. ac-

TOO LATE TO CLASSIFY

WANTED—Man of some experience also lady for housekeeping. Give wages in letter. Walter Rink, Port Hope, Mich.

FOR SALE—100 colonies of Italian Bees. Guaranteed free from disease. Steve Zupko, 4403 23d St., Wyandotte, Michigan.

Caucasians

Extra gentle, prolific, long tongue, little inclined to swarm, dependable workers—10% to 40% ahead of Italians. Wintered here out-of-doors and bred in a climate like their native land—severe winters—cold windy springs—thus insuring their good qualities. Foundation stock from mountainous province of Terek, Caucasus.

Carniolans

prolific at all times, very gentle, best of winterers, build beautiful white combs, most excellent workers. My Carniolan queens headed colonies producing 435 lbs. extracted over the whole yard. 29 years with them. Have supplied many State Agricultural Colleges and Experiment Stations with them. My own and Jan Strgar imported strain.

Prices, Both Races:

Untested, 1 to 5, 60c each; 6 or more, 50c each. Tested, $1.00 each. (Foreign countries, untested, $1.00 each; Tested, $1.50 each.)

Both races withstand northern winters and changeable springs better than Italians. Both races build up more readily during the unfavorable springs of our eastern and northern states and are ready for the early flow. Both races will improve Italians in gentleness and honey gathering.

ALBERT G. HANN

GLEN GARDNER, NEW JERSEY

cording to quality. Details by States follow:

Colorado—Northern Colorado is still reported below normal in condition, but reports are favorable from the San Luis Valley and fair from the Arkansas Valley. The Western Slope outlook is reported encouraging. Colonies when unpacked are found to be somewhat backward in amount of brood, but are gathering pollen freely and some nectar from dandelion and fruit bloom.

SUMMARY.—Rainy, cool weather has been general in the East and though warmer weather has been reported from the mountain area, it has frequently been cool on the upper western coast. The low temperatures and rain have been helpful to vegetation, and such clovers as came through the winter will generally be in good shape, but bees were hindered from working on early fruit bloom and other early sources, and spring dwindling has often been very serious. In cases where colonies came through the winter strong in bees they have generally built up well, but many colonies are still weak and feeding has been necessary over a wide area. Prospects for a honey crop are rendered more uncertain because of the spring dwindling. In many cases commercial beekeepers have made up their losses through the purchase of package bees in the South. However, southern shippers were greatly handicapped because cool, rainy weather retarded their activities and made it difficult for them to ship out package bees and queens on the dates agreed upon.

As the season for new crop honey approaches beekeepers who still have old crop remaining are endeavoring to dispose of it, and as demand for this honey is not heavy the market has weakened slightly. Prices are generally barely steady to slightly lower, though in a few cases where honey is especially scarce beekeepers are benefiting by a slight rise in market prices. No carry-over of importance is anticipated though many beekeepers may have small quantities of extracted honey on their hands at the end of the season.

Monthly Report of Honey Producers

Early in May we sent the following questions to honey producers: 1. What is your estimate, revised to date, of the amount of last year's honey crop not yet sold in your locality? Give answer in per cent. 2. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) Extracted honey, per pound? (b) Comb honey, Fancy and No. 1, per case? 3. What are prices when sold to grocers in case lots of (a) Extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) Comb honey, Fancy and No. 1, per case? 4. What is the retail price to consumers in your locality of (a) Extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) Comb honey, Fancy and No. 1, per section? 5. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair, or rapid. 6. What is the condition of the honey plants at this time in your locality, as compared with the average? Give answer in per cent. 7. What is the present condition of the colonies, as compared with normal, considering the number and age of the bees and the supply of stores? Give answer in per cent. 8. What is the per cent of winter and spring loss to date (if any) in your locality?

	1936 hold-over.	Large lots. Ex.	Large lots. Comb.	To grocers. Ex.	To grocers. Comb.	To retailers. Ex.	To retailers. Comb.	Move-ment	Cond. plants.	Cond. honey plants.	Win. of colo.	Spring loss.
SC-Ala. (J. M. Cutts)	0			.55		.65		Rapid	100	85		1
S-Ala. (J. C. Dickman)	10			.45		.60		Fair		80		
B. C. (A. W. Finlay)	0	.09¾		.70		.85		Fair	100	80		25
S-Calif. (L. L. Andrews)	0					.49	.15	Fair		100		20
C. Calif. (Davis Bros.)		.06⅝		.43		.55	.20	Fair	90	80		10
SE-Colo. (Otis E. Adcock)	5	.06		.43		.50		Fair	100	75		10
S-Fla. (C. C. Cook)	0	.07		.45		.60		Fair	100	100		10
C-Fla. (Harry Hewitt)	0			.55		.65		Fair	100	100		2
SE-Ga. (J. J. Wilder)	0	.07½		.50		.65		Fair	100	80		10
NC-Ills. (A. L. Kildow)	0			.50			.15			80		10
NC-Ind. (T. C. Johnson)				.55	3.60	.65	.20	Fair	90	100		2
NW-Ind. (E. S. Miller)	10			.50	3.00	.65	.20	Fair	50	100		10
W-Iowa (E. G. Brown)	0			.55		.65		Rapid		90		25
S-La. (E. C. Davis)	1			.40		.55		Fair	100	100		10
N-Maine (O. B. Griffin)	0				4.90		.30	Slow	60	80		20
N-Mich. (Ira D. Bartlett)	5	.06½						Fair	80	75		25
S-Mich. (Floyd Markham)	5	.07½		.55		.75	.20	Fair	60	80		5
C-Mich. (E. D. Townsend)	3	.08						Fair	90	110		0
E-Minn. (Floyd W. Ray)	6	.06½		.45		.57		Slow	100	90		5
W-Minn. (B. L. Morehouse)	10	.06		.55		.75		Fair	80	95		2
W-Nev. (Mrs. E. G. Norton)	0								80	70		40
W-Nev. (Geo. G. Schweis)	0			.40		.50			100	100		10
NW-N. Y. (Geo. B. Howe)				.50		.60	.25	Fair	100	90		5
C-N.Y. (F. W. Lesser)	10	.07¾		.50		.60		Fair	70	100		5
NW-N. C. (C. S. Baumgarner)	0			.75		.90	.20	Fair	100	100		10
SE-N. C. (W. J. Martin)	0	.06½		.65		.85	.20	Fair	90	100		5
E-N. D. (M. W. Cousineau)	20	.06	3.50	.40	3.50	.55	.20	Slow		90		10
C-Ohio (R. D. Hiatt)	0			.55	4.50	.70	.25	Fair	60	85		7
W-Ore. (H. A. Scullen)	10			.45		.57		Slow	80	100		5
C-Pa. (Harry Beaver)	2			.50	3.00	.60	.15	Slow	90	100		2
SE-Pa. (D. C. Gilham)	20			.70	3.75	1.00	.25	Slow	90	110		2
W-S. C. (E. S. Prevost)	0			.19		.20		Fair	100	80		5
NE-S. D. (L. A. Syverud)	10			.48	3.75	.59	.19	Slow	75	90		10
C-Tenn. (J. M. Buchanan)	0					.75		Slow	100	95		
E-Tenn. (W. L. Walling)	0					.85		Fair	100	100		0
C-Texas (T. A. Bowden)	0			.50		.60		Fair	100	100		2
S-Texas (J. N. Mayes)	10	.05	4.20	.47				Fair	80	75		10
S-Texas (H. B. Parks)	5			.47		.55		Fair	95	90		2
W-Vt. (Phillip Crane)			4.12			4.25	1.00	Fair	100	90		10
SE-Wisc. (N. E. France)	0					.59		Fair		80		15
S-Wisc. (James Gwin)	5	.07		.55		.63		Slow	67	80		10
N-Wyo. (Earl C. Reed)	0			.50		.60		Fair	50	75		10

Money Saving PRICES

Wax Worked Into Foundation

It will pay you to save your OLD COMBS and CAPPINGS and send them to us for rendering into beeswax. Or, if you have rendered wax, send it on and we will work it into Foundation for you at the following attractive prices.

Working prices per pound in Quantities of

Give size when ordering	Sheets to lb.	10 lbs. "A"	25 lbs. "A"	50 lbs. "A"	100 lbs. "B"	1000 lbs. "C"
"Hercules" Plain	7	$ .24	$ .20	$ .18	$ .14	$ .12
"Hercules" Wired	7	.29	.25	.23	.19	.17
Medium Brood Plain ...	7	.23	.19	.16	.12	.10
Medium Brood Wired ..	7	.28	.24	.22	.18	.17
Light Brood 4½"x16½"	16	.27	.25	.23	.18	.16
Thin Surplus	28	.28	.26	.24	.19	.17

State size foundation you want your beeswax worked.
(Cannot work less than 10-lbs. of wax into Foundation).

The above prices are our charges for manufacturing your beeswax into foundation.

Residue, if any, will be deducted from your shipment of wax.

If ordering Thin Surplus Foundation—**Send Light Wax.**

Pack your wax in a double sack and write your name on the inside and outside and notify us at the time of shipping.

— SIZES —

KIND OF FRAME	One piece bottom bar standard	Split bottom bar frame size
Hoffman size	8x16¾	8-9/16x16¾
Jumbo size	10x16¾	.....
5⅜ Shallow Ext.	4½x16½	5x16¾
4¼x4¼ Sections	3⅞x16	.....
4x5 Sections	3-11/16x14¼	.....
4¼x4¼x1⅞ Sec. (split)	4⅛x17¼	.....

The first two sizes can be had in "HERCULES," other sizes not necessary.

NOTE THE NEW LOW PRICES -:- Our Rendering Department is Always Busy

Send us your Old Combs and Cappings to render into wax. Our Steam Wax Presses do perfect work, extracting the very last drop of wax. We charge only 2c a pound for wax rendered when your Comb weighs more than one hundred pounds, and 3c a pound for wax rendered when Comb weighs less than one hundred pounds, and we pay the highest Cash Price possible for your wax.

THE FRED W. MUTH COMPANY

PEARL and WALNUT STREETS **CINCINNATI, OHIO**

Removable Reversible Basket Honey Extractors

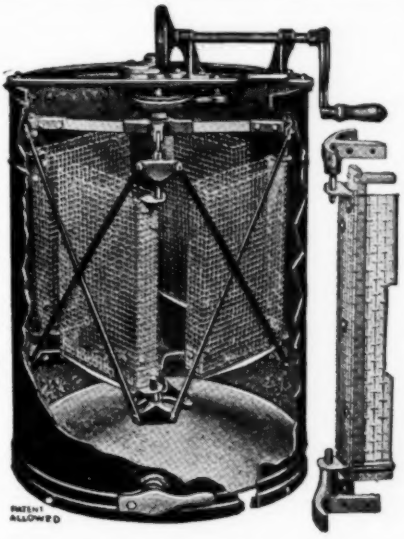
Our Style 15-4 Extractor shown here has 4 Removable Reversible Baskets for Standard 9⅛" frames, that can be lifted up and out to clean or disinfect in boiling water. The gears are always in mesh, with ratchet crank and brake, and is the easiest to turn of any 4-basket extractor on the market.

It is priced at $32.00. Shipping weight, 130 lbs.

This is only one of 10 different styles ranging from 2 to 50 frame sizes. Send for printed matter.

Manufactured by

A. G. Woodman Company
Grand Rapids, Mich., U. S. A.



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A. I. ROOT CO. OF INDIANAPOLIS 121 N. Alabama, Indianapolis

Leather-Colored
Italian Queens
LARGE SIZE

We ship only young laying queens and guarantee them to be purely mated and satisfactory to all. All queens mated from strong 3 standard frame nuclei. Replaced, no charges if they fail to satisfy. Carefully reared, producing large bees.

Young laying queen,.....$ .50
2-lb. pkg. queen,..... 1.95
3-lb. pkg. queen,..... 2.55

15% Discount to Dealers

GOOCH APIARIES
Farmersville, Texas

Genuine Italian Bees and Queens

Delivery Direct from Our Yards to You on the Date You Say

—PRICES—

GENUINE ITALIAN QUEENS
Postpaid to you

Shipment June 1 to Oct. 1

Untested ..... Each $ .50
Tested ..... Each 1.00

PACKAGE BEES — Express Charges Collect

Shipment June 1 to Oct. 1

2-lb. pkg. with Queen.....$1.95
3-lb. pkg. with Queen..... 2.55
2-lb. pkg. without Queen..... 1.45
3-lb. pkg. without Queen..... 2.05
For each additional pound of bees.. .60

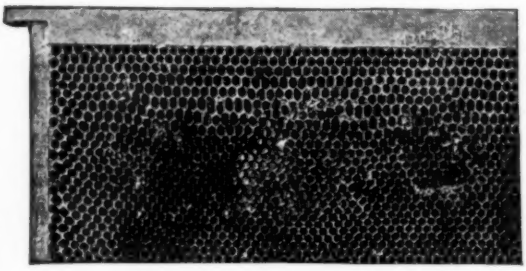
15% Discount to Dealers

HOLDER APIARIES
CITRONELLE, ALA.

XUM

Beat the Drones

With Dadant's Crimp-wired Foundation



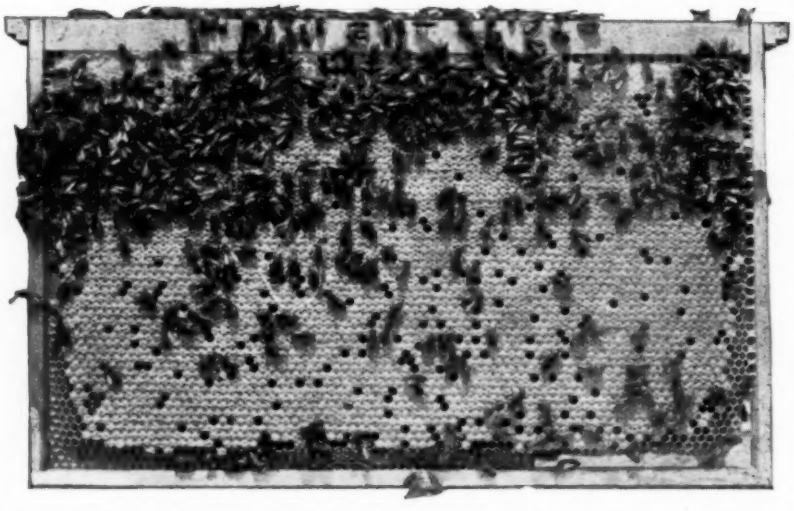
Replace your poorly built combs,—combs with drone cells and stretched cells,—with combs built from Dadant's Crimp-wired Foundation. How much space is there in your combs the queens cannot use? Space that reduces the number of bees at the honeyflow. Combs sagged from the weight of brood and honey; with areas of drone cells; with useless places the bees bridge over with thickened wax; places of no value.

There is no lost space in combs from Dadant's Crimp-wired Foundation. They have so little room for drone cells that the poor fellows have a hard time getting born. Colonies build up quickly from full combs of all worker cells; supers fill quickly. New combs, with 8 or 9 pounds of honey, leave the hive for the extracting room without a sign of slip or sag. They will stand load after load of either brood or honey and will last as long as your combs are in use. You can depend on them.

DADANT & SONS

HAMILTON, ILLINOIS

Makers of Famous Foundations—Crimp-Wired, Plain, Surplus



Beeswax Wanted—We buy at all times. Drop us a card, stating quantity you have to offer.

Vol. 65
No. 6

Gleanings
in Bee Culture

June
1937

Inter-mountain Bee Culture Laboratory

E. R. Root

Beekeeping Problems Are Being Solved in the Inter-mountain Region by Experts

"He that tooteth not his own horn, the same shall not be tooted". In the saying of this I don't know whether the philosopher had in mind men like Jas. I. Hambleton of the Bureau of Entomology, Washington, D. C., or not. Certain it is that as our Government representative and head of all investigation work relating to bees at various points in the United States he is not inclined to talk about himself or what he has done. He and the score of workers under him may well be proud of what they have accomplished. Hambleton is not only a trained scientist but he is also an executive who is able to get the maximum of work out of his men. The several U. S. Bee Laboratories under him click like clock work. They not only like to work under their chief, but under his direction they are solving real problems that are vital to the beekeeping interests of the country.

In our August, 1936 issue, page 459, I showed what the Bee Culture Laboratory at Baton Rouge, La., was doing and had accomplished and how it was colaborating with a like station at Laramie, Wyoming, in the shipment of package bees. In this issue I propose to show that real problems are being solved at Laramie also. If the reader has not time to read all that I shall say let him read the head lines following in this and the next issue on Government work at Laramie. We need a Bee Culture Laboratory somewhere in the white clover belt and unless beekeepers ask for it by writing to their representatives in Congress they won't get it.

The Personnel

Well, here are the facts about the station at Laramie. After several weeks of correspondence I finally obtained the material that forms the basis for what now follows.

The Inter-mountain States Bee Culture Field Laboratory, Bureau of Entomology and Plant Quarantine, U. S. D. A., was established November 1, 1926, at Laramie, Wyoming, under cooperative agreement with the University of Wyoming to study beekeeping problems as found primarily in the five Inter-mountain States: Colorado, Wyoming, Montana, Idaho, Utah, and adjacent areas. Dr. A. P. Sturtevant was placed in charge and with him was Dr. J. E. Eckert, who resigned June, 1931.

The laboratory now has the following personnel:

Dr. A. P. Sturtevant, Apiculturist in charge since November, 1926; Dr. C. L. Farrar, Associate Apiculturist, appointed December, 1931; Dr. A. W. Woodrow, Assistant Apiculturist, appointed September, 1935; Mr. John D. Hitchcock, Junior Apiculturist, appointed October, 1936; Miss Victoria Novicki, Junior Clerk-Stenographer, appointed October, 1936; Mr. H. J. States, Jr., who has had temporary appointments as Field Aid during the active season for the past three summers.

The Projects Carried

The projects carried by the Inter-mountain States Laboratory I find are divided into two major groups: Bee Disease Investigations, particu-

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Fig. 1—Dr. A. P. Sturtevant, Apiculturist in charge. Fig. 2—Dr. C. L. Farrar, Associate Apiculturist. Fig. 3.—Dr. Alan W. Woodrow, Assistant Apiculturist. Fig. 4—Dr. Sturtevant at his desk. Fig. 5—General laboratory. Dr. Sturtevant removing honey from A. F. B. super comb for spore content examination. Fig. 6—Centrifuge and microscope used in determining the spore content of honey. Fig. 7—John D. Hitchcock, Junior Apiculturist. Fig. 8—Miss Victoria Novick, Junior clerk-stenographer.

larly A. F. B. and Bee Behavior Studies. The Laramie Valley, surrounded by the Medicine Bow Mountains to the west and the Laramie Range to the east and south has too small a cultivated area to attract commercial beekeepers, yet the irrigated areas do provide a representative honey flow from alfalfa and sweet clover which is fairly typical of the Intermountain States. Since the altitude varies from 7200 to 7600 feet within the cultivated section, a long and severe winter climate provides conditions for studying wintering problems. Well isolated locations, many lacking any appreciable honey flows, are available for the study of certain problems dealing with A. F. B., its spread and control. Hard surfaced roads throughout most of the mountain states make co-operative projects possible in the highly developed commercial beekeeping areas.

Commercial Honey Probably Not the Source of A. F. B.

When this laboratory was established certification of honey was considered by several states as being necessary for the prevention of the spread of A. F. B. Because of this situation, Dr. Sturtevant in 1927 undertook an investigation to determine the **Bacillus larvae** spore content in honey necessary to produce infection in healthy colonies of bees, the spore content of commercial honeys purchased in the open market, and vari-

ous related problems, which have been carried through to 1935.

Feeding tests using known numbers of spores in a given quantity of sugar syrup or honey were undertaken which have shown that 50,000 spores of **Bacillus larvae** (the causative organism of A. F. B.) per cubic centimeter of feed (or 50,000,000 in a liter of syrup, total dosage) represents approximately the minimum infective dosage of spores necessary to produce infection in a strong five-frame colony. Larger dosages than this minimum, I am told, are almost certain to produce infection, whereas a light honey flow which may cause further dilution of the inoculated feed at times prevents the infection from becoming active when the minimum infective dose is fed. In no case has a colony fed less than this minimum infective dosage developed disease.

The Centrifuge and the Microscope to Determine the Number of Bacilli

A technique utilizing the centrifuge and microscope has been developed whereby the spores of **Bacillus larvae** can be recovered from extracted honey which has had contact with A. F. B. Upon examination of over 200 samples of commercial honey collected at random throughout the United States, the presence of spores could be shown in only 16 samples. Upon feeding 15 of these samples to healthy five-frame colonies only one produced active infection.

By further study of the centrifuging technique, Dr. Sturtevant, it is explained, has developed a quantitative method having reliable accuracy for estimating numbers of spores contained by any honey sample in order to determine whether such honey might be dangerous in relation to the spread of A. F. B.

Upon the examination of 59 honey samples obtained by taking one from every fiftieth 60-pound can coming from the extracting plant of a commercial apiary, in only a few samples was it possible to demonstrate the presence of a very few spores. In no case was the minimum dosage of 50,000 per cubic centimeter even approximated. Those samples showing spores were mixed together and fed without producing active infection in the broodnest.

Note this: This apiary from which the above samples were taken was known to have a generally large disease problem and the samples represented a season's crop of over 220,000 pounds. However, while disease was generally widespread in this apiary, particularly in the spring, supers of honey were not knowingly taken from diseased colonies when the commercial crop was removed, since a large proportion of all colonies found diseased are destroyed when found by the beekeeper. What interested me particularly was that what infected honey did get into the general crop was so diluted with disease-free honey from the large proportion of healthy colonies that the crop in general could not be considered dangerous with regard to spread of disease.

Certification Not Justifiable

These investigations indicate that the requirement of certification of honey, as has been proposed and even placed in operation in certain states, is not a justifiable measure in the control of A. F. B. under the present conditions of inspection and control of disease in this country.

Supered Honey Produced Above a Diseased Colony May Contain Enough Germs to Cause A. F. B.

Several colonies known to contain from a varying low to a high degree infection of A. F. B. were supered with foundation above excluders. These supers were sampled to determine the spore concentration according to time of season, and position of the colony as affected by the degree of infection in the broodnest. All of this honey was shown to contain from approximately 20,000 spores per cubic centimeter to as much as approximately 10 times the minimum dosage. The spore content closely paralleled the degree of infection in the broodnest.

All beekeepers should note this: This study shows that super honey produced above an excluder on an infected colony can **be dangerous.** It verifies the principle of bee behavior that bees place their honey in and around the broodnest when possible, moving it into supers above as additional brood-rearing and storage room demands.

When and How Packages May Carry A. F. B., Ordinarily Shipped Package Free from it.

The importance of package bees in the possible spread of A. F. B. was studied by making up standard packages from various colonies having from a low to a high degree of infection. These were held for varying periods of time, 24 to 96 hours, com-

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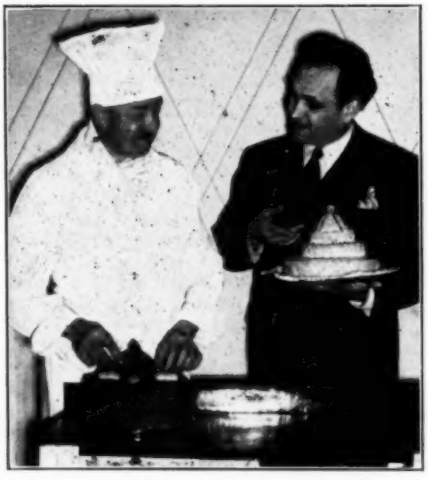
parable with the time required to deliver package bees from the South to northern producing regions. When these were placed on drawn combs and on foundation it was found that the degree of infection of the colony from which the bees were taken, and the time of holding determined the likelihood of disease developing in the package colony.

Package Bees Should Not be Shipped from Apiaries Infected with A. F. B.

Here is something that all package bee men and apiary inspectors should bear in mind; namely, that package bees shipped from an infected apiary should not be introduced onto drawn combs in less than from 72 to 96 hours after they are shaken into the packages for shipment. One package shaken from a badly diseased colony, when introduced onto foundation 72 hours later, developed A. F. B. It is presumed that packages would never be taken from a colony having an advanced case of disease. However, I think it is safe to say that the foregoing test shows why recurrence of disease frequently develops when colonies are treated by the shaking method and may account for a few isolated cases of disease blamed on package bees.

(to be continued)

Honey Makes Its Debut in Grand Opera



Mario Chamlee, leading tenor of the Metropolitan Opera Company, and the chef of the Crillon Restaurant in New York, discourse about the cake which is to be used in the forthcoming production of "Marouf" at the Metropolitan Opera House. They are shown with the honey cake which was inspired by the opera and the other cake which causes all the trouble in the story.

Operas have been known to inspire fashions and fads, but never foods. With the revival of the comic opera "Marouf" at the Metropolitan Opera House this spring, however, a "Marouf Cake" comes into being. The entire first act of the opera, based on an Arabian Nights story, centers around a honey cake. Mario Chamlee, leading American tenor of the Metropolitan Opera Company, who has sung the title role over a hundred times all over the world and will sing it at the Metropolitan, has eaten as many different kinds of cake during the first act. In the opera, Mr. Chamlee, as Marouf, the cobbler of Cairo, has a shrewish and nagging wife who suddenly demands that he get a honey cake for her. Marouf wails that Allah has not sent him any shoes to mend, and consequently he has no money with which to buy the cake. His friend the baker comes in and promises to help him out with a cake from his own shop. He returns with a fine-looking cake which Marouf presents to his wife. She, in a towering fury, is dissatisfied with it and flings it at him. Marouf begins to eat it himself, and when his wife has him flogged, continues to console himself with the cake. Even when he finally decided to join some sailors and run away to sea, he picks up the last cake fragment and puts it in his sack.

Mr. Chamlee, in the name role, has planned his own cake for the Metropolitan performance of "Marouf" and has consulted with the chef of the Restaurant Crillon in New York. Basing it on an authentic Arabian recipe, they have evolved the "Marouf Honey Cake", prepared in the following manner.

Marouf Honey Cake

Mix the yolks of 12 eggs with ½ pound of butter and ½ pound of honey. Add ¼ pound of sugar. Cut very fine ¼ lb. of citron, ¼ lb. of orange peel, ¼ lb. of lemon peel, and rub in ½ lb. of flour, until doughy. Then add ¼ lb. of almond flour, ½ lb. of chopped almonds, 1 teaspoonful of baking powder, and ¼ teaspoon of mixed spices (powdered as in pumpkin pie). Mix everything together, and beat the whites of ten eggs into it. Pour into a mold and bake. The cake serves 8 or more, according to slicing. —Constance Hope Associates, Inc., New York City.

The Migratory State

W. Leroy Bell

A truckload of 180 single-story colonies ready to roll to new pastures. An additional tier of hives can be placed on the rear. The entrances are open, covers and bottoms nailed on. (The lads are Mr. Bell's helpers).

Where Do We Go From Here? —Is the Eternal Question

(Continued from May)

In my last article I tried to tell you why it was necessary to move bees so many times in one season if you have them in southern California, and now I will try and tell how we do it.

I have heard many eastern beekeepers say: "How do you do it? If we had to move our bees the way you fellows do in California, we would 'throw in the towel.' " So I am going to tell you how we move our bees, and then you can make up your minds as to whether you want to try it, too.

To make migratory beekeeping anything but drudgery of the worst sort it is very important that all equipment be of the same dimensions. I mean all covers of one style, and we prefer the flat type, cleated at each end, and the exact size of the hive. All bottom boards the same type and of the same length (21½ in.). Hives must be in good condition at all times, and should all be the same type (8 or 10 frame), so that a full load may be carried with the minimum of waste space on the truck.

By having equipment that is all standard, it is a much easier proposition to tie a load so there is no worry of having it fall off in the middle of some town or on the highway. It does not take nearly as much time to load, or prepare a load, where all material is of one standard type, either.

Probably the first point to consider, after the equipment to be moved, is the truck. The best size for all purposes is the popular 1½-ton type, such as Ford, Chevrolet, Dodge, G. M. C., International, etc. Equipped with dual tires these types will handle a load of 5 tons over most any kind of roads that bees should be hauled over. Of course one should know that the truck is in first class condition before starting out with a load of bees, for this is one kind of cargo that **must go through on time.**

At the present all our bees are moved via a Ford V-8, and believe me, they "go to town." Since this is the type of truck we use, I will base my remarks on what we do by confining them to our own operations and the outfit we use.

This truck is built to carry a load of 100 2-story 10-frame hives of bees. These go on the truck five wide and three high, or 15 to the row. We load 6 full rows, but "bob tail" the 7th placing only 10 in it.

Preparing the Load

All bottom boards are "nailed on" so they are solid, and we don't have to worry about one of them coming off at an inopportune time. Hives are fastened together by nailing short lengths of lath upright at ends, or sides, with lath nails. We use two pieces of lath for each "double hive" and four nails to the lath. This may not sound like a very firm job of nailing, but all we want them to do is hold together while placing them on the truck, for once they are in place and "roped down," they will never move!

When we pull into a yard to move it, one man scatters the cleats, two on top of each hive, while the other starts a smoker. Then one man takes the front of the hives, gives each a

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puff of smoke as he comes to it and nails on his cleat. The man at the rear of the hive nails on his cleat, and if covers have not been nailed down previously, drives the two nails down that are always in place.

It takes only a few minutes to "nail up" a hundred colonies when everything is arranged for ahead of time. All cleats have the nails started, ready to drive home, before they leave the warehouse, and all covers have nails in place as I mentioned above.

Colonies Moved With Entrances Open

We move all our bees with **open entrances**, and so far like it much better than the old method of screening. This may be a new departure to many who read this article, but we have had perfect success and have moved thousands of colonies without any bad results. I know there are many beekeepers who still do not favor this method of moving, but I will tell my story here anyhow, and you can use your own judgment as to whether you want to try it.

When hives are all fastened together, and lids nailed down, one man gets up on the truck ready to place the hives as fast as the other man on the ground can set them up on the bed. The man that is to pick up the hives must have his smoker going in good shape, and before picking up a hive gives it several heavy puffs of smoke in the entrance, before he places it on the truck.

The man on the truck seldom needs a smoker, but sometimes certain colonies will get obstreperous and will need another taste of smoke to quiet them; so it is well to have another smoker handy, just in case.

Each row of 15 colonies is roped down as loaded and the truck moved ahead so the man on the ground will not have so far to walk. Hooks at proper spaces are provided under the edge of the truck for the ropes, and we use what is known as the "sheep shank" hitch in tying down the load. This hitch, which would be rather hard for me to describe, is one of the best I have ever seen, and once a load is tied on, it will be there at the end of the trip.

The loading of bees for moving via the open entrance method is started in time to finish before dark. Any bees that are still flying will drift on to the load and go in a hive without any fighting, even if it is not their own hive.

The advantages of this method are many; there are no screens to put on and remove, and covers are carried in place. No entrance blocks of screens are needed. Loading can be done before all bees are in from the field, and the load ready to go before dark. Bees are not nearly so cross when unloaded. There is no danger of suffocating a colony, since they can ventilate the hive as usual, and when the load is unloaded after a long night's run, it is all done, with none of the fuss of removing screens and putting on covers while bees are cross and men are sleepy.

The truck we use carries gasoline enough for a 300 mile run, so we do not have to make any stops at service stations for gas, which eliminates the complaint of leaving bees that might bother the public. When we stop at some roadside cafe to eat, we park the truck away from lights, since **all moves are at night.**

When we arrive at our destination, we throw our bed roll off on the ground somewhere (trying to find some nice soft rocks to spread it on) and sleep till daylight before we unload. By this time the bees are all quiet, and many times we do not have a veil on while unloading. We follow the same method of procedure in unloading as is used in loading, only it is reversed. The man on the truck smokes each hive before setting it down for the man on the ground. It generally takes about thirty minutes to unload 100 colonies, if we want to work that fast, and bees are spaced in the yard in a convenient manner, so it is not necessary to do too much walking.

If a load of bees is to be moved every night for a week or more, we have two crews, and alternate, so none of us get "road weary" as you surely will if you stay with it too long.

Before I forget about it, I want to make one more suggestion concerning the movement of bees with open entrances. When placing hives on the truck, be sure to have the entrances **toward the front,** so the breeze generated by the moving truck will blow into the entrances and tend to keep them quiet. We have found out that bees handled in this manner unload much nicer than those hauled with entrances turned to the rear. Very few bees leave the truck after starting.

The Problem of Locations

The problem of finding suitable lo-

cations for a large number of bees is a rather tough proposition. If every season was the same, so we could make the same moves year after year, it would be an easy matter, but since we seldom go to the same locality two years in succession, it is a different question entirely.

The reason we can not depend on a range every year is because our ranges depend entirely upon the rainfall. Since this varies from year to year, we have to find locations that have had the most rain for the season. This is true of practically all sources. The orange belt is, of course, excepted, since it is in the irrigated district.

To always find suitable places to locate an apiary where the range is good, roads are practical, and water available for the bees, is a hard matter. We often spend several days each spring and travel hundreds of miles, scouting for new ranges. We arm ourselves with a shovel, and test for moisture wherever we go. We carry a map of the country, and check all likely looking spots as to the moisture condition at that time. We have found that these scouting trips are very worth while, and often prevent us from making a poor move, although they sometimes are just "wild goose" chases.

We seldom place over 200 colonies on a location, but I have seen 400 on certain locations in the sage belt, and all made good yields.

The move from our orange ranges to the second locations is done with comparative ease, since we are working from the "home base," but all other moves start anywhere from 10 to 150 miles away from our base, and are quite a different problem. It means that we have to establish a camp in certain cases, where we can eat and sleep (if we get a chance) and sometimes these camps are not so comfortable as they might be.

This next move generally is not quite so far, since the buckwheat ranges border the sage in most cases.

We prefer to haul all honey to our central warehouse to extract, even if it means a hundred miles or more, for all honey must be brought in eventually anyway, and we feel that it is cheaper to haul it in the combs than to establish a make-shift extracting plant at our out-apiaries. Sometimes when the weather is real hot we will wait till night to start out with a load of honey in the combs, for if we attempted to haul it when the combs were hot, there would be many of them ruined from "sagging." As it is,

(Continued on page 386)

A yard of three types of hives. Dadant, 10-frame, Langstroth and 8-frame Langstroth. Yard averaged 110 pounds in 1928.

Winter location, but no snow! Some of our winter locations do have plenty of snow, even in southern California.

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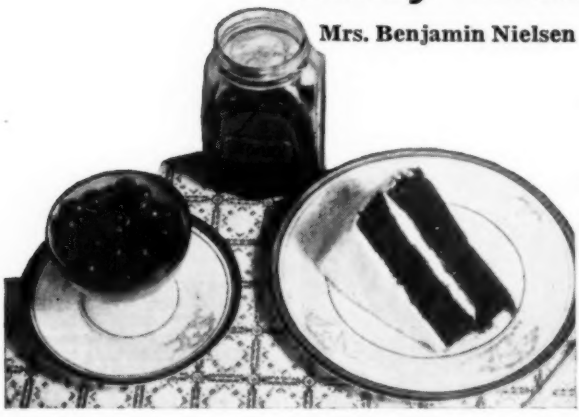
Honey Treats

Mrs. Benjamin Nielsen



Menus Can Be Improved By Using Honey, Especially During Spring Months

Drizzle freshly pitted cherries with honey.

Spring is most definitely here—in the fruit market, at least. How good these fresh fruits taste after months of a diet of the canned varieties! They will taste doubly good if drizzled with honey just a short time before serving. The sugar in fruit and in honey are natural sugars and blend perfectly.

The tartness of freshly pitted cherries is delightfully subdued by the sweetness of honey. The delicate flavors of the milder fruits are perfectly developed by a light drizzling of honey. We like plump, red strawberries drizzled lightly and served whole or crushed, honey added, and the whole permitted to stand until well blended, then served thoroughly chilled. (Try this as a topping for ice cream.) Fresh peaches, sliced, and red raspberries are exceptionally good honey-treated

Canning Cherries

Canned in a honey syrup, cherries possess an unusually good flavor, particularly if canned unpitted. How much honey you will use in preparing your syrup will depend upon personal taste, and how rich or thick a liquid you like to use in canning. In preparing mine, I like to use one cup of honey and a little less than two cups of water. It should be varied to suit the kind of fruit canned, of course. After the honey and water has come to the boiling point, it may be necessary to skim the mixture. Have the fruit ready and proceed as you usually do, according to the method you like best—open kettle, cold pack, or oven canning. If you use the oven method fill with liquid to within an inch and a half of the tops of the jars, as the syrup bubbles in cooking and drips in the oven to burn, if the vessel is too full, producing both muss and a disagreeable odor.

Honey Chocolate Cake

You will want cake to serve with this delicious fruit. Chocolate is a popular flavor and rightly so. So let's make it Honey Chocolate Cake. For this you will need: ½ cup butter, ¾ cup sugar, ½ cup honey, 2 squares unsweetened chocolate, melted, ¾ cup thick sour milk, 2 eggs, 1¾ cups flour, 1 teaspoon soda, and ½ teaspoon salt.

You will want a second piece of honey chocolate cake.

Cream butter, add sugar gradually and cream until light and fluffy. Add honey gradually, and blend completely. Stir in chocolate, melted over hot water. Sift flour be-

fore measuring. Then sift together flour, soda and salt and add alternately with the sour milk. Mix well and pour into a well greased and floured pan. Bake in a moderate oven of 350 degrees F. Cover with your favorite honey icing.

Golden Mincemeat

We used to use mincemeat chiefly for pies and during one season of the year only. Now we find it used most any time of the year in meat dressings, in centers of baked apples and in plump filled cookies. So make up a batch of Golden Mincemeat and have it on hand for the special cookies I am going to tell you how to make. Assemble: One pound chopped, cooked white meat, chicken, veal or pork, ½ pound suet, 1 pound dried apricots, ground and soaked overnight in water to cover, 1 pound honey, 1 quart sweet cider or fruit juice, 2 pounds seedless raisins, white preferred, 1 cup crushed pineapple, 4 cups chopped apples, ½ pound candied citron, finely sliced, ¼ cup sliced preserved ginger, (optional) and ¼ pound each of finely sliced candied orange and lemon peel.

Cook the apples in part of the cider until tender. Add apricots and liquid in which they were soaked and cook 15 minutes. Add remaining ingredients and mix thoroughly. Cook very slowly, stirring frequently until raisins are plump and mixture is of proper consistency. Pour into hot sterilized jars and seal.

Mincemeat Cookies

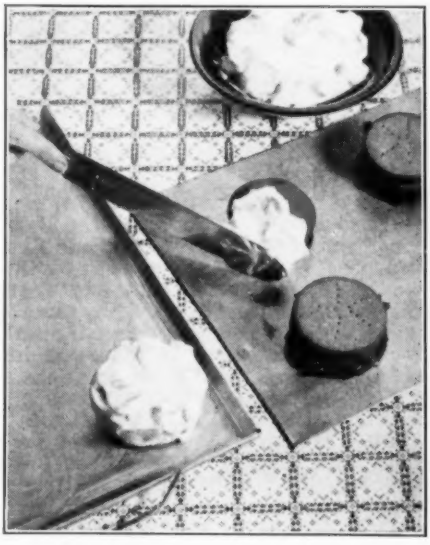
You will make these attractive cookies when you desire quick afternoon refreshments, or have guests you wish to impress, or at the very urgent pleas of your family.

Use your own favorite cookie recipe, or try this one: ½ cup butter, ½ cup sugar, ½ cup honey, 1 egg, ½ teaspoon salt, 2 teaspoons baking powder, ¼ teaspoon soda and 3 cups sifted flour.

Cream butter, add sugar and honey. Add beaten egg and beat well. Then stir in sifted dry ingredients. Roll out on floured board to about ¼ inch thickness, cut in small rounds and bake in a 400 degree F. oven, 8 to 10 minutes.

Spread one cookie with a generous layer of mincemeat, add a cookie, another layer of mincemeat and top with a third cookie. Cover thickly with honey meringue and brown in a slow oven.

Honey meringue requires a great deal of beating. This product may be kept uncovered in the refrigerator for several weeks. If it is to be stored it should be beaten for a longer period to prevent separation. Allow ¼ cup of honey for each egg white and



Double-deckers are easy to make.

beat until mixture stands in very stiff peaks.

Bar-le-duc

The bar-le-duc of France is world famous. It commands a high price justified by its reputation and quality. And the genuine bar-le-duc is preserved with honey.

To make it the seeds are removed from currants by a method which mutilates the fruit very slightly. One way to remove the seeds is to cut a small slit in the side of each currant and remove the seeds by means of a needle. Next weigh the currants and weigh an equal amount of honey. Bring honey to boiling point, add currants, and allow them to boil two or three minutes, until skins are tender. Do not allow mixture to boil so violently that the shape of the fruit is destroyed. The juice of the currants may dilute the honey too much. Should this occur remove the currants and cook the syrup to proper consistency, add currants and bring just to boiling point. The task of removing the seeds may be omitted but the resulting product is not nearly so nice.

Aurora, Nebraska.

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400 Colonies In One Yard

Leonard Otto

A Half Century of Beekeeping on One Location and a System of Management Designed to Meet Conditions

Leonard Otto.

My grandfather kept bees in Germany and later when he came to this country he captured a swarm of wild bees in the then dense forests near Reedsville, Wisconsin. They were black bees. This swarm was increased to 7 or 8 hives. About 1875, he bought some Italian queens. These were successfully introduced by first running the black bees over a white bed sheet in order to find the queens. The hives were soon full of Italian bees and these together with an uncle's bees were the only Italian bees in the surrounding country.

In 1887, my father purchased the place where I now live for the purpose of going into the bee business. More bees were immediately bought and in due time a good sized apiary was established. The large apiary which now is located on the exact plot of ground where hives were placed in 1887 was on its way. It however did not reach its present proportions until about 25 years ago.

Four hundred swarms of bees all in one yard is a wonderful sight to behold, especially during a honey flow. Still more wonderful is the sight as it appeared on a June day not so long ago after a prolonged dreary spell when one noon practically all the colonies took advantage of the much-waited-for sunshine. Approximately 7,000,000 young bees were on the wing and these together with the older bees, which must also be counted by the millions, slightly dimmed the sun as they flew about over the apiary. This was a truly remarkable sight and was witnessed only once.

Aside from the pleasure derived I keep bees for a living. I do nothing else to gain a livelihood for my family. This being the case the apiary must be managed so as to get the best possible results, and when I speak of results I mean honey in the cans. I do not keep bees for an experiment.

All my bees have been kept in this so-called home yard except for two years when some of the bees were moved to an outyard 4 miles north. At the end of the second year's experience the plan was abandoned because it did not pay. Some may think that 400 colonies in one yard is far too many, or that if it is possible to profitably keep that number in one yard, my location must be most unusual and a beekeeper's paradise. If some one thinks my location is a paradise for a beekeeper he should know that many have made an absolute failure of beekeeping in this locality.

Arrangement of Hives

It may be of interest to know how the hives are placed. Our hives are not all in similar rows but are so placed that the rows are of different lengths and the hives face in various directions. The hives are painted red, white, and yellow. This is done so that we can easily remember a certain hive, but what is more important, so that the bees can better distinguish their own homes. Italian bees can distinguish colors.

The equipment in my apiary is mostly of the 8-frame type. About

A part of 400 colony apiary before the honey flow.

one third of it is 10-frame, which is fine to work with. It is very convenient for extracting by placing nine frames in a super instead of ten. The production of comb honey seems to go better in 10-frame hives as the bees for some reason build the combs heavier in 10-frame equipment than they do in 8-frame. The 8-frame equipment is lighter to handle. If I were to buy equipment today it would be 10-frame. The reason I continue to keep some bees in 8-frame hives is because the equipment I have is too good to throw away.

I try to keep three-banded leather-colored Italians, not too dark, nor too light, rather a little light than dark. The breeding and developing of a fine strain of bees is carefully watched, and the method used will be explained a little later on.

Throughout the year each colony is kept in a single brood chamber. I fully realize that this is contrary to the present day trend but as long as large crops of honey can be secured with the use of only one brood chamber, I'm not inclined to change over to two. In the spring, usually during dandelion bloom or just as soon as the brood chamber is well filled with bees, a super is added to make room for the bees. Sometimes it is necessary to add another before the honey flow really gets under way.

Method of Requeening

When colonies are strong, that is, when the brood chambers and extracting supers are well filled with bees the queens are removed and killed whether there be queen cells or not. This is usually done about June 10 to 20, depending upon the weather. Clover usually begins June 8 to 15. Queens are killed at the rate of about 30 to 35 per day until the job is finished. In this way the job is completed in about 11 to 13 days. As the queens are killed the colonies are carefully checked and if the stock in any of the colonies is not up to requirements new blood is introduced. The queen is removed as well as all cells. Then a good queen is introduced. This queen is taken from a neighboring hive which has bees that are desirable. Queens that are introduced may be released in a few hours so the laying period is hardly interrupted. The bees readily accept the new queens and I can not recall an instance where one was not accepted. In about seven days the colony is rechecked to see if any cells from the inferior queen are present. If so these cells are removed. By doing this each year the stock is kept up so well that it is necessary to interchange only a few queens each season. The queens that are introduced are later killed, so that when the job is complete there is not an old queen in the entire yard. All are dead and gone and with them the possibility of a prime swarm. Now all the extracting supers are brought out and distributed as well as possible among the various hives.

Hiving Swarms

With that job completed one can guess what is next on the program. The young queens are beginning to hatch and with them the swarms come forth. There are many small trees in which the bees may and do cluster. They have their favorite places, about five in number, and these are used 99% of the time. The occasional swarm that chooses to be an exception goes to another near-by place to clus-

A portion of same apiary during the honey flow.

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ter. They never leave as some might suppose. The swarms come at about the rate of 15 to 20 per day depending upon the weather, the honey flow, and mostly upon how many are permitted to swarm. The queen cells may be removed to control swarming and it must be remembered that the colonies got an abundance of room in the form of empty supers just when the swarming fever was at its height. I try to arrange the swarming so as to get about 15 to 20 per day. At that rate of speed I can nicely arrange to hive some new swarms which are run for comb honey. Bees that are not needed are put back where they came from, or they can be put into another swarm that might be able to use them to good advantage.

I do not happen to know of any place where people are taught to keep bees in this way. It is true that the method has disadvantages, but on the other hand, it has many advantages that far overshadow the disadvantages. The best part of this whole arrangement as far as swarming is concerned is that after what swarming there is, is over I don't have to give it another thought that year regardless of how long the honey flow lasts. By using this system 600 pounds of surplus honey has been secured from a single colony a number of times. Swarms run for comb honey often make 10 cases and sometimes 13. One fall after our well had already been dry for 13 months some of the swarms were doubled up or united and the apiary thereby reduced to 270 hives as I figured that that number could nicely take care of any possible honey flow the coming year. When next June came it was apparent that the honey flow was going to be better than expected so the apiary was increased from 270 to 380 swarms, and at the close of the season over 57,000 pounds of extracted honey and 300 cases of comb honey were removed. These figures should satisfy any doubter that the system does work.—Wisconsin.

The above picture was submitted by Burtt & Son of Gloucester, England. It shows a group of beekeepers at the recent National Honey Show in Crystal Palace which building was destroyed by fire Nov. 30, 1936). Front row left to right: E. L. Hague, Director of Apis Club; Rev. D. L. Bryce, Chairman of National Honey Show; The Rt. Hon. D. Lloyd George; W. E. Hamlin, General Manager of National Honey Show; Miss A. Perry, Beekeeping Expert to Lloyd George.

The Hon. D. Lloyd George who addressed the Beekeepers' has about eighty colonies of bees and plans to increase his apiary to 150 in the near future.

DIFFERENTIATING CHARACTERISTICS IN THE DIAGNOSING OF BROOD DISEASES

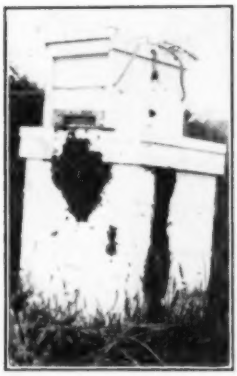
Characteristics to observe	American foulbrood	European foulbrood	Parafoulbrood	Sacbrood
General appearance of brood combs.	Brood irregular; intermingling of capped, open, and punctured cells; much dead brood in capped cells, cells with punctured cappings, and cells uncapped by the bees.	Brood irregular; dead brood mostly in open cells.	Brood irregular; most of dead larvae in open cells; varying amount of dead brood in sealed cells.	Brood slightly irregular; dead brood mostly in cells with punctured cappings or in uncapped cells.
Appearance of cappings over dead brood.	Many punctured, sunken, and discolored.	Few cappings sunken, punctured, or discolored.	Cappings over dead brood punctured, discolored, sunken, or thickened and sharply depressed in the center.	Usually punctured.
Proportion of brood dead.	Varying from 1 or a few to 75 percent or more.	Varying from a few coiled larvae to most of the larvae in open cells, also a few larvae in capped cells.	Varying from few larvae to practically all the brood.	Small amount of brood dead; in severe cases, 50 percent or more.
Age at time of death.	Late larval and early pupal stage; rarely coiled stage.	Coiled stage; occasionally late larval stage.	Coiled larval stage; occasionally late larval and early pupal stage.	Late larval stage; occasionally coiled larval or pupal stage.
Position of dead brood.	Fully extended on floor of cell; tail turned up on bottom; head lying flat; great regularity.	Coiled on bottom or twisted on side walls; few larvae fully extended on floor of cell; very irregular.	Coiled on bottom, twisted on side walls, or fully extended on the floor of the cell; great irregularity.	Fully extended on floor; heads prominently raised; great regularity.
Color of dead brood.	At first dull white; then light brown; later coffee brown, dark brown, or almost black.	At first dull white, grayish white, or yellowish white; often becoming brown, dark brown, or nearly black.	At first dull white or grayish white, becoming light brown, brown, reddish brown, or dark brown.	Grayish to straw-colored, becoming brown, grayish black or black; head end usually darker.
Kind of brood affected.	Mostly worker; occasionally drone; rarely queen.	Worker, drone, and queen.....	Worker, drone, and queen.....	Usually only worker but sometimes drone.
Consistency of dead brood.	At first watery or slightly viscid, becoming ropy; finally brittle.	At first soft and watery; afterwards pasty, rarely viscid and ropy; scales tough, rubbery, or brittle.	At first soft and watery; in open cells becoming pasty and brittle; in capped cells frequently becoming ropy, finally tough or leathery.	Skin fairly tough; contents watery and granular; scales tough, brittle when completely dry.
Scales.....	Uniformly extended on lower side wall; tail curved up; dead pupae with tongue extended upward, often attached to upper cell wall; difficult to remove from cells.	Usually coiled on bottom of cells; often irregularly twisted; sometimes fully extended; tracheae often clearly visible; tough and rubbery; easily removed from cells.	Coiled on bottom, irregularly twisted on side walls, or fully extended in the cell; tracheae sometimes visible; easily removed from cells.	Uniformly extended on lower side wall; head prominently raised; outline wavy; grayish brown to nearly black; head darker; easily removed from cells.
Odor.....	No odor at first; distinctive odor different from gluepot odor in early stage of decay; gluepot odor in brown ropy remains and scales; odors constant.	Usually no specific odor in dead, coiled larvae; sometimes sour odor in partly decayed remains; decayed meat odor often present in decaying brood in sealed cells, finally penetrating and acidlike; odors variable.	Variable, resembling odor in European foulbrood but much more intense in ropy remains.	Absent or slightly sour.

The above is taken from the new circular No. 392 issued July, 1936, entitled, "Diagnosing Bee Diseases in the Apiary," by C. E. Burnside, Assistant Apiculturist and A. P. Sturtevant, Associate Apiculturist, Division of Bee Culture, Bureau of Entomology and Plant Quarantine of the U. S. A. Dept. of Agriculture, Washington, D. C. This 35 page circular may be obtained from Superintendent of Documents, Washington, D. C., at 5c a copy.

From the Field of Experience

AN EASIER WAY WITH SWARMS

Alan Gordon

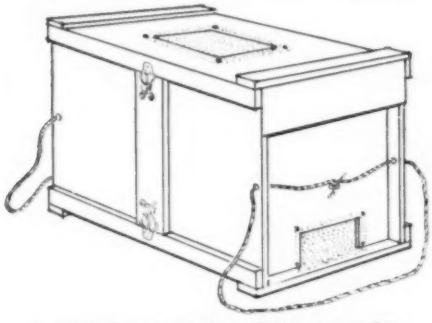


The swarm box in place on a hive.

Everybody who has spent half the afternoon getting a swarm out of wire netting, or a thorn hedge, will be glad to hear of one of the most useful appliances in Great Britain for the past two or three years. It was invented by Miss M. Whyte-Johnstone, expert for the Surrey-Bee keepers' Association, and is named for her; "The Whyte-Johnstone Swarm Box." The illustration gives a good idea of the construction of the box.

It holds six frames (British standard) but could be made to take less of the bigger frames used in America. The floor and roof are detachable, and are fastened with spring staples. It is made as light as possible to facilitate handling.

A piece of wire gauze is let into the roof for ventilation. The same material is used to close the entrance, which can be fastened with thumb tacks. If it is desired to let the bees fly but to detain the queen, a piece of queen excluder zinc can be pinned over the entrance instead.



A detailed construction of the swarm box.

In use, the box is extremely simple. So long as a couple of drawn-out frames are used (one preferably containing a little honey), the others can be either drawn comb or simply sheets of foundation.

To take the swarm, remove the floor or the roof, whichever is the most convenient. Then place (or hang) the box above, or fix it below the swarm. It is best, if possible, to get part of the swarm touching the comb. If this can't be done, a little smoke will soon get the bees on the run. When the swarm is in the box, it can be closed up and carried away; and the frames lifted out and placed straight in the hive, or the box will serve as a temporary hive.

The photograph shows the swarm box in use. The swarm in this case had settled on the side of an occupied hive, and was effectively dealt with by the aid of this useful gadget.

Reigate, Surrey, England.

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SYSTEMATIC MANAGEMENT INCREASES PRODUCTION

E. S. Miller

Is intensive beekeeping more profitable than extensive beekeeping and does manipulation pay? Of course, much depends upon the kind of manipulation and the skill of the operator. Probably a majority of beekeepers are of the let-alone variety, who harvest swarms rather than honey. Many others try to control swarming but without success, not having acquired the technique. At least it seems that way in this locality and it probably is true generally. Let-alone beekeeping appears in both large and small apiaries and frequently it is advocated in the bee journals.

In our own experience it is very evident that systematic manipulation for swarm control during the last few years has been profitable. In fact, I believe that we have been able to solve the swarming problem for both comb and extracted honey production and that our crops have been largely increased thereby. Not only has production been stepped up but the amount of labor also has been cut in half. If, in the beginning of my ex-

perience as a producer of honey, I had possessed the equipment and the present system of management since acquired through thirty years of experience, I fully believe that the annual production per colony could have been more than doubled.

Our records show that for the first ten years, from 1903 to 1912 inclusive, our average production per colony was only 48 pounds. Our production per colony during the last ten years, 1926 to 1936, with swarm control has been much greater although there is reason to believe that pasture has been less abundant owing to lowering of the water table. Notwithstanding the worst drouth on record, with no rain from May until August 15, our average colony production in three yards, based on spring count, was 122 pounds in addition to an extra food chamber kept over for spring feeding. The average surplus at one of these yards of 60 colonies where the land was not quite so high and dry, was considerably above 200 pounds per colony, spring count. Swarming was negligible in all three yards. Upon visiting the yards of more than 100 beekeepers in the county in company with the inspector, it appeared that the 1936 colony surplus, where swarming was allowed, was less than half of that of our own yards where swarm control was practiced.

With a good honey flow the difference between the results of proper manipulation for swarm control and the let-alone plan may amount to many pounds per colony and many tons in the aggregate. It is true, however, that in lean years when there is not much for bees to gather, less difference may be noted, although it may be a difference between honey and no honey. Good stock, young queens, a definite and practical system of management with frequent inspection, promptness in doing the right thing at the right time, are factors essential to the best success in the production of honey. Furthermore, for skillful manipulation of colonies much depends on having suitable equipment, good combs, and plenty of them, in time of a major honey flow. In fact, without these, proper manipulation is practically impossible and a maximum crop difficult if not impossible to obtain. (For a brief outline of swarm control methods see page 343, June Gleanings, 1936).

Indiana.

ARRANGING OUT-APIARIES

Clarence J. Tontz

When establishing out-yards one has to consider several things other than seeing that the hives are placed in pretty rows. The methods used by L. D. Taylor, who operates 1500 colonies in Iowa, in locating his out-apiaries and arranging his hives are worth observing.

Since working with Mr. Taylor I find he tries to have his hives in the shade during the hot months. Shade-boards are used if necessary. In July

Mr. Taylor places the hives in his outyards in pairs in partial shade.

'36 a few strong colonies that were exposed to the sun only in the forenoon melted down. The colonies are arranged in pairs. The stands are made of 2x4 lumber. When convenient, the pairs are arranged in rows. Plenty of room is left for stacking up supers. There is little drifting.

An important benefit of the pair system is dealing with queenless colonies. Should one of the colonies of a pair become queenless and refuse to be requeened (we had several of this type) the sweeping method is resorted to. The queenless colony is taken to a corner of the apiary and the bees swept or brushed off the combs. Soon they go back to their old stand and with little resistance take refuge with the neighbor colony. As shown in the photo, the lone hive in the center foreground has taken in its queenless neighbor workers. They will aid in increasing the honey yield, whereas if left in their original home they would only slowly dwindle away while being a menace in spreading fb.

We have found it costly in trying persistently to requeen some colonies. It is easy to read of the different processes of requeening, but too many colonies have different ideas on the

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subject. We have had healthy, strong, queenless colonies absolutely refuse to be requeened. Several colonies refused to build queen cells from frames of young brood and eggs given them three or four different times.

In establishing a yard, Taylor tries to estimate the number of colonies the surrounding territory within a two-mile range will accommodate. The variation of the yields of different apiaries was noticable. In the smallest yard of perhaps 15 colonies (it had been reduced by fb) the yield was heavy as compared to most of the larger yards. Better too few colonies in an area than too many.

Oklahoma.

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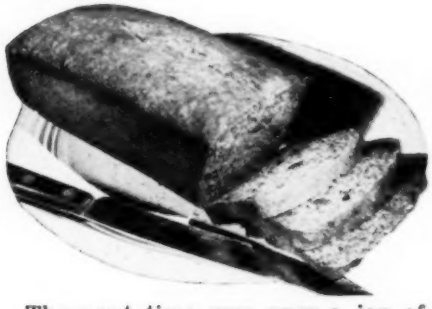
Honey-Orange-Nut Bread

The observance of national food weeks is becoming more popular every year. Producers and merchants of honey chose the week of April 19th to 24th as their Spring National Honey Week for this year. Honey is certainly one of the oldest of nature's foods and yet one that we let slip our glance much too often.



The next time you open a jar of honey, try this honey bread recipe. It is unusually tasty, easily prepared, healthful and honestly makes father a tea sandwich he can consider more than "just a bite." The content of honey in this recipe will insure its staying moist to the very last crumb. At the end of three weeks a test load proved this point, but it tastes much too good to ever stay around that long at home.

Honey-Orange-Nut Bread

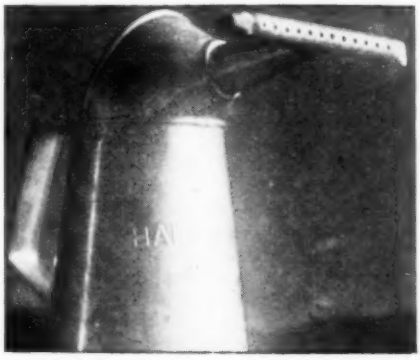
2 tablespoons shortening, 1 cup honey, 1 egg, 1½ tbsp. grated orange rind, ¾ cup orange juice, 2½ cups flour, 2½ tsp. baking powder, ½ tsp. soda, ½ tsp. salt, and ¾ cup chopped nuts.

Cream the honey and fat; add the beaten egg, add orange rind. Sift the dry ingredients and add alternately with orange juice. Add chopped nuts. Bake at 325 degrees for one hour and ten minutes.—Modern Science Institute, Toledo, Ohio.

A HANDY METHOD OF FEEDING

Leroy F. Baxter

We are compelled to do an excessive amount of feeding owing to the very cold backward spring. We are using both the cans and the pouring method. Both have advantages and disadvantages. With the friction-top pails and empty supers the work can



The straight row of holes directs the flow of syrup into the cells.

be done quicker, but always with that uncertainty of cans leaking and running the syrup out on the ground, or the empty supers being moved over by wind or stock and exposing the hives to robbers. Also, in cool weather, the bees are very slow in taking the syrup from pails, and they have that large empty space overhead around the can to keep warm, too.

By pouring the syrup directly into the brood combs we are certain that the bees get it, but it is more mussy, and the hives are opened and exposed to robbers longer at a time.

We don't have enough feeder cans so are forced to do a lot of pouring. The picture shows my pouring measure with an attachment I soldered on the spout. I like this much better than just the plain spout, as the syrup coming out in a number of small streams enters the comb much more readily. It is on the order of a sprinkler, only it consists of a single straight row of holes. It is made from a piece of ⅝ inch brass tubing, 5½ inches long. A piece of ¼ or ⅜ inch iron pipe would answer the purpose, too. With a ⅛-inch drill I bored 12 holes in line, about ½ inch apart. This tube with a ½-inch hole drilled in the middle is soldered onto the end of the funnel spout. The two ends are not soldered up but are closed with two

corks or plugs which can be easily removed for cleaning any obstruction from the fine holes.

A piece of window screen about 1½-inches square is pushed into the mouth of the funnel to prevent bees from getting down into the tube and clogging it. This screen is easily removed for cleaning and is almost a necessity, because at times the bees will rush into the syrup a dozen at a time and would fill the spout in no time if it were not for the screen.

I tried a double row of smaller holes drilled closer together, but the syrup pouring through these had a tendency to unite or run together, and was not as satisfactory as the single row of ⅛-inch holes drilled ½ inch apart.

You can easily pour a half-gallon of thick syrup into three sides of ordinary brood combs. It is done surprisingly fast, too, and when it is done you know the syrup is there. With this method the bees do not have that big empty space overhead in a super with a can to keep warm. Furthermore, you do not have to carry a supply of empty supers and feeder cans around with you. You can feed much or little as the case may require, and do it all in one trip. In cool weather it is not unusual for a ten pound pail of syrup to remain on the hive from one to two weeks before the bees empty it, that is, providing it doesn't spring a leak soon after you leave the yard and all run out on the ground.

Nebraska.

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COMMENTS ON CURRENT ITEMS

J. F. Dunn

Mr. Haydak's article on pollen substitutes is valuable even if it results in the fact that there is no such thing as a substitute for pollen. In our younger days while we succeeded in getting bees to gather "synthetic" pollen we got no practical results from it.

Strengthening Weak Colonies

We read about buying queenless packages to strengthen weak colonies in the spring and the advice is sound. But in any large apiary there are always colonies that are over-populous and can spare a few combs of bees and still be ready for the harvest. Assuming there is no disease in the apiary, colonies that are not up to par can be strengthened by taking a few combs well covered with bees from strong colonies, and adding the bees to those that need help. As the combs are removed from the strong colonies, hold each comb near the entrance, raise it quickly and give it a slight jar. A goodly lot of the old bees will tumble off the comb but the young bees will cling to it. Carry those combs to the weak colonies and gently brush them off at the entrance and they will run in and be well received.

What Will the Harvest be?

Today, May 5th, our peach tree buds are showing white and will probably be in full bloom in a few days. Early pollen from dandelions and other sources are being carried in. Owing to the very open winter, lack of snow and much intermittent winter freezing and thawing, alsike which is usually our main crop is badly heaved out. Alfalfa is also badly heaved but to a lesser extent. The outlook is not at all encouraging, but who knows what the outcome will be? In this Niagara district, which Mr. Pettit calls the Florida of Canada, we have in the past experienced just such prospects, when with copious spring rains the meadows were covered with the little white Dutch clover and we "thanked the Good Lord and took courage." We have had frequent rains and a week of fine warm weather.

Fire Treatment

Mr. M. W. Harvey says fire treatment is safest and best and he is absolutely right, as a recurrence of the disease treated as Mr. Harvey describes is inevitable. As every experienced beekeeper knows, the average beekeeper can not be trusted to treat bees to free them from disease. The destruction by fire is the only way in which A. F. B. can ever be permanently wiped out.

Hive Dimensions Must Be Right

That homemade hives is a cabinet maker's job goes without saying. Expert carpenters have made the mistake of lengthening the top bars ⅛ of an inch. We have bought several such apiaries and had to cut that much off the length to use them in our own hives. Comparatively few of the frames were the right depth.

I agree with Mr. Griffin of Caribou, Maine, that bees do not always deteriorate if no new strain is added.

The finest and largest queens we ever bought were raised by a Louisiana breeder that had not introduced new blood for 35 years, and the crossest bees I ever met were in an apiary of 100 colonies of Italian bees. The proprietor had a rule of buying

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from many different breeder's, killing every queen of previous year and introducing new queens each spring.

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SPINSTER JANE SAYS—

Spring Delayed

Warm weather is very reluctant about coming to stay. Here it is May 11th, and colder than it was in April. Have had several nights of frost, though all the harm they can do will be to brown the new, tender, foliage. Since a snow-storm at the end of April, we've been having colder weather.

Willow catkins and alder tassels are big with pollen, but not a dandelion is in sight yet. Bees must wait some time yet for nectar, which goes to prove the necessity of feeding bees, here in the North, either sugar syrup or honey, if lucky enough to have the latter.

Fuss and Feathers

Our papers are filled with the Coronation events and news. We common folk are amazed at the enormous expenditure of money at such a time of stress, even though it provides work for many.

How much simpler the acceptance of a queen in the bee kingdom! We wonder if a drone were at the head of affairs, would he demand more "fuss and feathers?" Yes, say what you like, males, from time immemorial, like ceremony, pomp, and fine clothes as well. Look back to the days of curled wigs, satin breeches, buckled shoes, and lace fal-de-rols for decoration. Male birds, too, wear the brighter coats. It is old Mother Nature's plan, perhaps, carried out until women took the initiative and said, "You've been IT long enough. Now give me a chance!"

I will acknowledge, however, that we moderns are getting more sensible in many ways. Athletics and outdoor sports are bringing our bodies, at least, back to what was intended. Gone are wasp-waists and deforming p a d d e d monstrosities. And even though robed in purple and gold, our queen, yes and all monarchs, have their wings clipped. A sort of "Thus far shalt thou go, and no farther."

Nutrition In Honey

I had quite a surprise recently, and really believe Canada is waking up a bit to the nutritive value of honey. In fact, she is becoming bee-minded. In last month's copy of a certain Canadian magazine there were recipes of many good things made with honey—quite a new departure in their cooking department! Recently, too, I saw a splendid advertisement about buying more bees to make more honey, etc. I cannot remember just how it went as I failed to cut it out, but it was good, and I believe was an indication of aroused interest in bees and honey. Can we thank our neighbor to the South, for this? Enthusiasm spreads, and if the writers for Gleanings are fair examples, there is an abundant supply of enthusiasm in the U. S. A.

The Miracle of Giving

I have just finished reading a good book and several passages in it appealed to me so greatly, I am passing them along to you.

An orphan boy, reared in an American mission, was adopted by wealthy people. He had a Midas touch when attaining manhood, everything he did bringing in more wealth. He was not happy. Life for him was flat, lacking something vital. He traveled much, finally going to visit his birthplace in China where his mother lay buried, and where his missionary father had been murdered. There he pondered the question, what had they, more than he, that brought them a full life with happiness and contentment? He got the idea that it might be helping others—something he had never done. He returned to America where he later put this into practice, but when he talked first with an old family friend, here was what appealed to me. The friend thought that with his great wealth he should be content, but he answered, "Money would be a doubtful blessing to a bee if it took away the task of going out to gather honey." The friend replied, "A bee isn't the product of a high and complex civilization." "Neither am I," the hero of the story replied. "I spring from the primitive stratum of people born to work, who expect to work, and who, when they don't work, have no particular object in living on."

Isn't there food for thought there? And isn't that what the great Tolstoi thought? Work then, is necessary to happiness, but the hero found it not enough. He found it in giving until he had to go to work again of necessity, and in the end, this life of service to others brought him in close touch with the Great Teacher whose life and death, too, was to serve mankind at large.

Every day we learn a lesson from bees.—Spinster Jane.

Editorials

On the Danger Line A very readable as well as a popular article on bees appeared recently in the Sunday edition of a Los Angeles paper. It is fairly accurate in statement, interesting and instructive. Unfortunately it has much to say about bee disease in a way that might lead the public to draw the conclusion that honey might be contaminated. It is highly important that when a beekeeper recites the interesting story about bees that he avoid all reference to bee disease—not because the truth should be suppressed but because the public may get the idea that there is something dangerous about honey.

Our older readers will recall the "Wiley lie" that was copied and recopied by almost every paper in the land. It was to the effect that the beautiful comb honey in section boxes was a "manufactured product," combs made out of paraffin by appropriate machinery and filled with glucose. The story has been repeated at different times for a period of half a century. This oft-repeated lie is one of the reasons why comb honey today is not used by the housewife.

The discriminating reader has doubtless noticed that we use, and have been using the term A. F. B. in these columns. The beekeeping public understands what it means and the news reporter is less likely to build a damaging story around it.

If a news man asks for a story about bees ask him to let you see the copy before it goes out to the world. Unless you do he may have his facts distorted and garbled.

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Winter and Spring Losses in the South Greater than in the North The statement in the heading may come as a surprise because admittedly bees in the Southland do not die of cold or of exposure; but they do die of starvation even in yards of the intelligent and good beekeepers. Why is this?

A colony strong and prosperous in the fall will in the Southland use up an enormous amount of stores in heavy brood-rearing. Natural pollen is abundant in the spring and to some extent in the winter. It is truly surprising how quickly the stimulus of plenty of pollen will put brood-rearing at its peak—and then look out. A big colony full of brood and bees ready for a honey flow may in two or three days begin to carry out its immature brood and unless the owner is there in 24 hours to equalize stores, or feed, the colony will starve.

We have actually seen scores of colonies recently dead in our trips with the bee inspectors in Texas and in other southern states where bees can fly almost every day in the year, all because they suddenly ran out of stores. A light honey flow for one day would have saved them.

Many beekeepers bank too much on a honey flow that usually comes in the nick of time, but some years, like this one, did not come.

The state bee inspectors of Texas, Messrs. Heard and Bergen, by equalizing stores have actually saved hundreds of colonies.

What has happened in the Southland will happen in the North during June, if fruit bloom and dandelion do not help to replenish stores none too abundant. This is the reason why a food chamber full of stores on all the colonies is needed in the North and especially on colonies in the South.

We have interviewed beekeepers who keep bees both in the South and in the North and it is their candid opinion that more colonies are lost during winter and spring in the South through starvation than are lost in the North from cold and exposure.

Don't forget, Mr. Beekeeper of the North, that some of your best colonies on account of the open winter and much brood-rearing may starve to death within a week of your main honey flow. Better give them a look-over as soon as you read this.

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When Package Bees Can Carry A. F. B. The reader will do well to study carefully the report covering the activities of the Bee Culture Laboratory in the inter-mountain states starting with this issue, page 337.

The Government workers have shown when and how package bees not on combs can carry A. F. B. The

results show pretty conclusively that bees shaken from an A. F. B. colony and placed immediately on frames of comb foundation can transmit the disease to the new hive. The Government experts, however, aver that the danger of such transmission will be much less if the bees are held three or four days before being placed on foundation, or drawn combs. As there is still danger they hold that bees should never be taken from an apiary or colony where A. F. B. exists.

As there is no Federal legislation covering interstate shipments of bees, good or bad, Uncle Sam would be powerless to act; but, fortunately, practically all the states from which package bees are sent have stringent laws against shipping bees from diseased apiaries. It is evident that package bees that have been shipped a distance or far enough to cover three or four days time would be safe under almost all conditions.

The work done at the Inter-mountain States Laboratory shows why the once orthodox method of shaking bees on to frames of foundation resulted in so many recurrences of A. F. B., and why the burning of bees and combs and scorching out hives is the only way to make a complete clean-up.

A glance at the headlines in the report of the Inter-mountain States Bee Culture Laboratory shows that the work in this and the other bee laboratories under Jas. I. Hambleton have many times over justified the small appropriation for the maintenance of these laboratories.

If the beekeepers in the white clover belt want a Station they must make enough noise to get it. That means you must write to your senator and representative in Congress.

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The Dionne Quintuplets and Glucose

This refers to the article by J. L. Byer, in the March issue, page 167, in which he tells how the glucose people of Canada have been trying to capitalize on the value of glucose for babies, especially for the quintuplets. Quoting from the newspaper Globe and Mail, from Toronto, he refers to the lawsuit between two glucose companies, each of whom claimed that it was their organization which furnished their product to the aforesaid babies. It finally came to a lawsuit, at the conclusion of which Mr. Justice Jeffrey, who dismissed the case, said "Advertising of corn syrup in connection with the Dionne quintuplets has been misleading the public". The jurist is further quoted as saying "If the public were aware of the small amount of corn syrup that was used—an infinitesimal amount as I am aware, they would know the whole advertising was misleading".

Honey is proud of its good name. It does not need to masquerade under the name of another good food. If the statements of Judge Jeffreys are true, and we have no reason to question them, then corn sugar should not continue to publish pictures of the Dionne quintuplets as though corn sugar or glucose were responsible for their good health. We hope that Dr. Dafoe who really saved the lives of this remarkable group of babies, will give us the facts in the case.

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When Will all Beekeepers' Learn?

It is encouraging that many beekeepers have learned (usually from bitter experiences in losing bees from starvation) that an abundance of stores in each hive of bees throughout the year is a cure for most of the ills of beekeeping.

As we read the semi-monthly honey report from Washington and note the number of colonies in various states that are weak and need to be fed, it is obvious that in most cases an ample amount of honey left with each colony last fall would have averted this condition.

A spring such as we have had in most sections of the country should accentuate what beekeeping authorities have been trying to tell us, viz., that each colony should have at least 50 pounds of honey for winter and early spring stores.

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Definite Knowledge Concerning Apiary Locations Essential

How much do we really know about our apiary locations? Perhaps not as much as we should know. And yet a good location for bees is one of the most important considerations in securing a honey crop.

Some beekeepers may become dissatisfied with their present locations and move their bees to new locations. Usually fields look greener far away.

Moving bees and equipment is rather costly, therefore, it pays to investigate new locations thoroughly before moving.

Information concerning a new location may be secured by visiting beekeepers in that area. In some instances where it seems impossible to secure satisfactory information it may be advisable to move a few colonies to the new location to try it out for a season or two before moving all of the bees.

Generally speaking, a good farming community is a good place for beekeeping. As stated in a recent editorial on nectar secretion, page 36 of January 1937, Gleanings, a good locality for growing potatoes is, as a rule, a good place for bees.

Beekeepers should make sure that a new location has an abundance of pollen as well as nectar plants. Early sources of pollen are valuable for colonies to build up on in the spring.

Securing good locations for commercial apiaries is one of the most important and difficult problems in beekeeping.

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A Hazard More Serious Than Bee Diseases

A subscriber from California referring to our editorial in the May issue page 293 on the menace to beekeepers of poisonous dust in the cotton districts of the southern states writes:

Your editorial as given on page 293 of your May issue is fine as far as it goes but it touches only on one phase of the situation. During the past three years we in California have been trying to stress the urgent need of the beekeepers taking immediate action to secure proper regulations through county, state, and federal sources **to prohibit the application of any poisons injurious to man, domestic animals, or to honeybees by any means that will produce a drift of the poisonous materials to other property in such quantity as to cause an appreciable loss to others.** During the past year we have had numerous requests for further information from beekeepers in various parts of the country, showing that gradually a few are awakening to the dangers that confront them from this menace.

It is our belief that the bee journals should recognize the situation at face value. If the poisons are confined to the fields treated, they will not be broadcast over vast areas to poison all the pollen and nectar plants in the territory in which airplanes are now being used. It is **these drifting poisons** that cause greater injury than the poisons that remain in the fields treated, although, as in the case of cotton, cucurbits, and fruit trees in bloom, bees are killed when they visit the fields treated. But can't you see what greater damage will result if all the alfalfa fields, and wild flowers yielding pollen and nectar, for two or three miles in the direction of the prevailing winds are also poisoned?

You raise only the question of the beekeeper and of the cotton grower. What about the matter of public health, the dairyman, and others? Beekeepers cannot fight this thing alone. They must solicit the aid of these other interests sufficient to create a public reaction against application of poisons by means that cannot confine the materials to the fields treated. Do not attack the airplanes solely, as it is but one method. **Attack the principle of uncontrolled application of poisons.**

The federal authorities have been conscious of the dangers of uncontrolled application of poisons for many years but they have fostered the use of poisons by any means that will spread the poisons in the path of the invading insects. They have erected certain poison tolerances only after being forced to do so by trade barriers erected by public resentment of the consumer who does not care to have poison with every fruit or vegetable served. They have permitted the use of such heavy metal poisons as lead arsenate, calcium arsenate, the fluosilicates, solenium compounds, fluorine compounds, and many others even after it has been amply demonstrated that these compounds are injurious to soil conditions and to public health.

Now, when examples of vegetables and fruits found with arsenic or other poisons absorbed from the soil are becoming quite numerous, they are gradually bestirring themselves to make regulations to counteract public opinion. Milk has been declared unfit for human consumption because of arsenic secured by the cows from vegetation or drinking water. But how many such cases get by the inspectors and how much damage is being done to our children and to ourselves by these accumulated poisons?

California has gone far by employing an attorney to fight for the cause of the beekeeper, but **this problem is of national scope.**

Our correspondent is right. Our federal and state authorities started something when they recommended poisonous dust to kill the in-

(Continued on page 384)

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From North, East, West and South

NORTHERN CALIFORNIA, May 2.

Weather: For nearly all of the past month our weather has been fair. Our territory is so great that to describe the weather conditions in all parts of it would be next to impossible. Some of our beekeepers north and south of us have had snow to contend with while here in the Bay region the past month has been ideal bee weather. In some localities the weather has permitted bees to take every advantage of the fruit bloom. The result is a surplus from that source. In other districts where the weather was cool and rainy scarcely enough nectar was gathered to keep the colonies going.

Honey Crop: The honey crop of 1937 is in the future and none of us can tell what it will be until it is in the cans. This time last year beekeepers of the Bay region were harvesting a heavy crop of eucalyptus. This year at the same time there is barely enough nectar from that source to keep brood-rearing progressing. So we have lost one crop. The migratory beekeeper has two more chances. This has caused us to ask this question: Will the swarming problem be more intense this year because of abnormal conditions?

During all of April we have had the question before us. Some lots of bees have swarmed and swarmed; in other lots in almost the same vicinity with as nearly as possible the same conditions, not a swarm was cast.

Miscellaneous: It has been interesting to note that the unusual conditions of the past winter have caused many beekeepers to watch more carefully the building stages of their bees. The condition of bees, so far as health is concerned, is quite satisfactory. Much credit is due along this line to the constant watchfulness of our State Inspector, H. M. Krebs, and his army of workers in the field. Supply dealers report a good season and many of our queen and package bee dealers have had more orders than they have been able to fill.

The question of the use of poisonous materials for the protection of crops demands the attention of beekeepers in every part of the state. Beekeepers are not alone in this matter; stockmen are rapidly becoming interested because of losses they have suffered from the spreading of poison on lands outside of the crops which were intended to be protected. The beekeepers have no quarrel with the right of the farmer or producer to use insecticides on his own property to protect his crops; they believe no one has a right to spread poison beyond the confines of his own property to the injury of others.

There is a good demand for wax and the price is holding up. Extraction is commencing in districts where a surplus was obtained and we notice that greater care on the part of the beekeeper is being taken to see that plenty of honey is being left on the bees for any emergency caused by unusual or freakish weather.—Cary W. Hartman, Oakland, Cal.

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SOUTHERN CALIFORNIA, May 3.

Weather: The weather has been ideal for the past month but until the past week a little too cool for nectar secretion. Almost no rain has fallen and the few light showers that came soon evaporated. All prospects point to a continuance of the present warm weather.

Honey Crop: While perhaps ten days late, the honey crop thus far is all any one could wish for. Orange and black sage have been blooming profusely. Prospects are so good on the outside ranges that not nearly the usual number of colonies were moved to the orange groves. The honey promises to be of very high grade, a large per cent grading white. Many colonies were weak and not up to honey-gathering strength when the flow started, consequently the yield per colony will not be great in many of the apiaries. Fifteen to twenty pounds per colony per day is reported in some apiaries on the best colonies. Both sage and orange are yielding well at the present writing. Under normal conditions orange should yield for another two or three weeks,

while the sages, black, white and purple, should continue to furnish nectar well into July. Wild buckwheat, one of the greatest of the light amber honey yielders in our part of the state, is making a good growth and should yield well throughout June and July, weather conditions being favorable. All in all, beekeepers are happy in anticipation of the best crop in recent years.

Miscellaneous: With the rainfall at or near the highest point ever recorded in Southern California the growth of all vegetation should be much above normal. Reservoirs are full and overflowing, streams are running high and snow is yet plentiful on the mountains. This insures a plentiful supply of water in the lower valleys during the summer.—L. L. Andrews, Corona, Calif.

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TEXAS, May 1.

Weather: April was decidedly below normal and adverse to beekeeping. Less than one inch of rain fell. This is one and one-half inches below the normal for this month and in addition it raised the deficiency for 1937 to 4.74. The temperature has been below normal for the past three months. The cold weather combined with the drouth has held everything back and now with the beginning of a warm period all wild plants have gone through their congested blooming period in a very few days. This has produced a heavy honey flow that has lasted about a week. From all indications it will not continue and the only chance left over much of Texas for a normal honey crop is a late blooming of mesquite. In isolated locations in the guajillo district, guajillo and catsclaw have given some good flows, however the total amount is very small. The bees as yet are in fine condition and ready to do their part when a nectar flow comes. The cold and dry period has made the production of bees and queens for package shipment a very strenuous operation. However, the bee shippers are ready to ship as the time arrives. Most of the migratory beekeepers have left Texas for their summer homes. Many of them returned to the North with numbers of packages of bees raised in Texas to restock their yards.

Many of the beekeepers throughout Texas have been honored by a visit from Mr. John H. Price of Maidstone, England. Mr. Price is a noted public school authority in England and says that beekeeping is only a hobby but he knows more about bees and beekeeping than the majority of professional bee men. He is making a ten months' tour of the United States to obtain first hand information of mass bee and honey production.

Preparations for the annual meeting of the Texas Beekeepers' Association are well along. The program will be sent to the members very soon. The officers and the program committee are urging every beekeeper who believes that beekeeping has a future to be present, and, because of the organization of the State Chapter of the Auxiliary to the American Honey Institute, all ladies interested in beekeeping should be present to become charter members.—H. B. Parks, San Antonio, Texas.

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COLORADO, May 4.

Weather: The bounteous supply of compact snow which was deposited in most of the mountainous regions during the winter and spring months was welcomed by the apiarist and agriculturist alike as it gives an abundance of life-giving fluid for crop irrigation as it melts. Overflowing mountain streams are busily engaged conveying the intermingling waters to reservoirs and laterals and to rivers that carry the surplus to the sea.

The past winter was very kind to the beekeeper and brought his bees through in excellent condition where they had sufficient stores. However, some parts of eastern and northern Colorado were not so well blessed in this respect and heavy losses was the consequence. The bees in general are breeding up rapidly and some swarms have been cast and will probably be at the peak of the brood-rearing long before the honey flow. This, however, is not always for the best as experience has shown, unless they have plenty of stores as stimulus, until the flow starts.

Honey Prospects: From the appearance of the general conditions the outlook for a honey crop is very good. The season seems to be a little later than usual but the plant condition is excellent where damage was not inflicted by last year's drouth. The old crop of honey is gradually being dis-

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posed of. Many beekeepers have been sold out for some time and have been buying from others to supply their trade. The demand for honey has been good but slowed down during April which was to be expected. It is generally felt that very little of last year's honey will be left when the new crop is ready for the market.—G. A. Pauli, Pueblo, Colo.

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SOUTH WESTERN IDAHO, May 5.

Weather: Our past winter was very severe. It started about the first of the year with considerable snow and below zero weather for most of January. Twice the mercury reached near 30 below but in spite of the severe cold most bees came through the winter. The winter loss in some localities is quite heavy. March came in like a lamb and the first few days brought out early plant life, but the last of March and most of April was cold with considerable rain.

Crop Prospects: Our first fruit bloom, which is apricot, appeared about April 20, about 10 days late. The dandelion came into full bloom about May 1st and it is abundant enough to furnish considerable nectar if the weather continues favorable. Apple, pears, prunes and other fruit trees are beginning to bloom. Alfalfa and the clovers are making a fair growth and will be blooming in another month. The snow depths in the mountains are fair and we should have sufficient water to insure proper irrigation, which is necessary for a normal honey crop.

Miscellaneous: The Western Idaho Honey Producers' Association met in Caldwell, March 17. This is a new organization, a part of the Idaho State Honey Producers' Association, organized to discuss local conditions at various times of the season, since our state is irregular and conditions vary. A considerable number of packages are being installed this season. New highways are favorable for trucking bees. The writer has just returned from Northern California with about 500 packages. The trip was made in a little over a day and one half during a cold spell and was very successful, without any loss from chilling. A similar trip was made last spring without feeder cans and proved successful, but the extra few cents spent for feed are well spent for insurance, in case of a break-down with towns as far as 150 miles apart.—A. D. Wood, Boise, Idaho.

WYOMING, May 10

Weather: Spring is unusually late, the dandelions which normally are nearing their prime at this date are just commencing to bloom. The Sheridan weather Bureau records 1.92 inches as the normal precipitation for April, but 1937 record was 1.24 inches, which, in view of the sub-soil moisture being almost entirely absent does not look encouraging for N. E. Wyoming. In Uinta County where the altitude is 6700 there is an abundance of moisture. The government experiment farm at Lyman says dandelions will not commence to bloom until May 20 which is about 20 to 30 days late. Bees have wintered quite well over practically all of the State. Winter and spring losses will be light.

The fight against the hordes of Mormon crickets is getting into full swing in Sheridan County. The crickets are more numerous than ever and it is hoped the early start of the war against them will be more effective.

It is too early to say how bad the grasshoppers may be as we have had sufficient warm weather to hatch out only a few eggs in well favored spots, but the survey last fall showed heavier infestation of eggs than did the previous year. During the seasons of 1935 and 1936 grasshoppers were more of a destroying agency than the drouth.

Marketing: This has not been a problem to Wyoming beekeepers for a couple of years owing to the shortage of the crop in many sections. Out-of-state honey is commencing to appear in Wyoming stores due in part to the small number of Wyoming producers who cater to the retail trade.

Miscellaneous: Packing bees in paper with good windbreak has proved very successful though we had considerable zero weather. One beekeeper who packed 80 colonies this way lost only one which apparently had become queenless. The colony strength was good in every one. Prospects for honey crop in most parts of the State are much more encouraging than a year ago excepting the north eastern part which has been so badly devastated by drouth and grasshoppers the last three years.—Earl C. Reed, Ranchester, Wyo.

MANITOBA, May 6.

Weather: The early part of April and up to April 24 was good for the shipment and hiving of package bees. April 25 is the popular date to receive packages here and what a day it turned out to be. On the morning of the 24th it began to snow at daybreak and snowed hard all day. At noon downtown streets in Winnipeg were covered with four to six inches of slush, then it turned a little colder and by night it was double that amount with a strong wind from the North. Traffic both in city and country was at a standstill. On Monday we had to wear chains on our cars to get to the office. Then it turned warm and the following Monday it was 80 in the shade on my veranda when I went home for lunch. Beekeepers will probably gain more than they will lose as that moisture was needed in just that form.

Honey Crop: Carload lots of honey in producers' hands are reduced to four cars at this date. This is the first year since I came to Western Canada that cars of honey remained in producers' hands until this time of year. The big crop in the three Western provinces surely made Manitoba go places this year—a carload to England, a car to Quebec, three 50,000 pound cars to British Columbia, eight carloads to Toronto and 6,000 pounds to Chicago by truck. With the exception of Quebec all these are new markets. Of late, buyers from the East are bidding on offerings here, and there is a prospect of the hold-over moving that way before the new crop arrives.

Beeswax: We have never seen so much wax moving, prices around 20 cents for clean wax. Plenty of cheap comb foundation available this year.

Miscellaneous: There is plenty of money available to buy packages this spring and the shipments arriving daily should bring the total figures up to those of last year, if not higher. Package bees for immediate delivery have been available up to this date but just now there is a continuous flow of orders for extra queens coming to this office. This is expected at this date, and I am hopeful of satisfying all needy inquiries next week. It is always difficult to get extra queens the first week in May.—L. T. Floyd, Winnipeg, Man.

SOUTH DAKOTA, May 8.

Weather: Right now we are having delightful, warm, calm weather that seems to repay somewhat for the climatic indiscretions we have had to suffer. Notable is the untimely blizzard which swept the country April 24 and 25 killing livestock just put to pasture. A few of the large stockmen lost as many as fifty and more cattle as they drifted aimlessly with the storm to flounder in the grotesque drifts which piled up in ravines and sloughs. The temperature barely dropped to freezing and after the storm it was a peculiar sight to see the budding branches of boxelder and cottonwood sticking up through the huge drifts of snow. Trees began giving pollen May 5 and since then bees have been busily gathering it.

Colony Condition: Although the winter was tedious, with the first spring flight on March 6 colonies have come through in good condition with no more than ordinary losses. Unpacking was started by some after the middle of April and in other apiaries has just been completed. It would seem a good rule to follow to defer unpacking until pollen-gathering is well under way.

In one case a trailer load of packages was brought up from the South and neatly installed, nip and tuck, before the blizzard struck. That beekeeper is still congratulating himself. One day later and the loss would have been complete.

Crop Prospects: Excellent is the word for prospects. Sloughs and ponds are brimful and some lake beds, dry for the last four or five years, have water again. Many lowlands are too wet to seed, and many basements have up to two feet of water from seepage. Subsoil moisture is said to be down four to five feet on the uplands, an ideal condition for the growth of sweet clover.

Acreage of clover has been gradually increasing under the impress of governmental conservation and an improving rainfall. Location of adequate bee range no longer presents the serious problem it has recently.

The first nectar flow will start in a week from dandelion.—J. F. Norgren, Junius, So. Dak.

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NEBRASKA, May 4.

Weather: Most of April has been cold and cloudy. Several light rains brought much needed moisture. Much more is necessary, especially in the west, north and northeastern sections where it is unusually dry and sub-soil moisture is deficient. The season is about two or three weeks late and brood-rearing has been slow. Some feeding has been necessary. Bees have begun to gather pollen and in some instances, feeding has been done to stimulate brood-rearing in an effort to build colonies up more rapidly.

Honey Plants: Sweet clover appears to have suffered badly. Drouth and grasshoppers prevented a start last fall in many localities. There is an occasional field and some scattered along roadsides. Apparently it will be necessary to resort to migratory practices in order to secure a crop from this, our main honey plant. This does not apply to irrigated sections.

Honey Market: The demand is fair and honey is moving at good prices. However, prices are too high for heavy consumption.

Miscellaneous: Winter losses have been quite heavy. Farmer beekeepers, in some instances, are puzzled over the loss of bees plentifully supplied with honey. Protracted cold periods in January and February made it impossible for bees to move out sufficiently to secure supplies.

Spring weather conditions so unfavorable for the bees is delaying the grasshopper hatch. Government aid, in the form of poison bait, has been delayed. So we are watching the situation with anxiety. A few warm days will result in heavy hatching of the hoppers and unless cold rains come, huge quantities of poison bait will be imperative. Fifty pounds will be more effective at that time than 500 pounds in July.

As an economy measure a motion to cut our inspection appropriation in half, has been introduced. This is regretable indeed, for A. F. B. may lie dormant for a number of years and spring up most unexpectedly during lean years. Extra, rather than less, vigilance should be observed during such times that the progress made against this dread menace may not be impeded.—Benjamin Nielson, Aurora, Nebr.

IOWA, May 10.

Weather: The spring has been exceedingly cold and backward. This has seriously interfered with the normal development of colonies. The winter loss has not been severe, but many colonies have died for lack of stores. Colonies which were given the proper attention last fall are found to be in excellent condition. Several colonies have recently come under observation in the unpacking process where sealed brood was in eight frames of the second story and brood was already being reared in combs which had been built between the bottom bar and the top bar of the two hive bodies. Such colonies never realized that adverse conditions had been existing during the spring.

A large number of package bees have been installed this year. Many of these have been for increase by commercial beekeepers. It is interesting that more operators are giving attention to the necessity of a pollen supply for package bees. This comes as a result of a presentation of this subject by Dr. Farrar at the State Association meeting last fall. Where package bees have been established on combs and given reasonable supplies of stores, of both pollen and honey or sugar, the development has been highly satisfactory in spite of the cold damp weather. Where the installment has been made on foundation the development is naturally much slower and may require special attention later.

Crop Prospects: The prospects for honey plants seems to be better than was anticipated earlier in the season. The spring rains have been ample over the entire state. Honey plants are making a very rapid growth. This is especially true of sweet clover. All clovers will probably be more abundant than was feared and yet the seedings of last year did fail over a large territory due to the drouth.

Miscellaneous: An increased interest is developing in the value of bees as pollinators for the clovers where one is interested in seed production. An example recently came to our attention where an operator had 60 acres of white sweet clover that he intended to leave for seed production. He did not know anything about bees but felt that he should have them, and

the result was that he negotiated with an extensive honey producer to place sufficient bees within flight range of this clover to insure a heavy pollination.

Continued interest exists in the Veterans CCC Camp at Denison, Iowa, in the course which is being offered in honey production. The members of the class have purchased package bees which will be operated under the direction of Howard Shipton, Apiary Inspector, instructor in beekeeping at the Camp. Some graduates of this work are now operating colonies successfully in new locations which are scattered throughout the states of the Middle West.—F. B. Paddock, Ames, Iowa.

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SOUTH LOUISIANA, May 5.

Weather: Unusual warm weather induced early brood-rearing and many colonies showed from four to six frames of brood in early January. Then followed some cool days and rainy days when the bees were unable to fly—and swarming was rampant. Package shippers welcomed this situation as there were plenty of bees to shake early in the season, but the honey producer had plenty of trouble.

Crop Prospects: The 1936 crop of honey and wax has been disposed of and inquiries from buyers meet with no response. Some honey producers are already beginning to take off the early willow and white Dutch clover surplus. All honey plants are in fine condition and present prospects point to a satisfactory yield in 1937. Our spring honey is much lighter in color than usual and most of us are blending to darken the color to near our usual amber shades which we have adopted as our color standard. Prices are still strong on both honey and wax.

Miscellaneous: Interest in our State Association is being shown by our constantly increasing membership which is nearing the 100 mark—an all-time high. Arrangements are being made for local group meetings in some sections of the state. Caddo and Bossier Parishes have been holding local meetings for a long time and these meetings have been of great assistance to the officers of the State Association in shaping the policies and methods of seeking corrections of conditions which seemed to need attention. The co-operation of state officials has been perfect and, at this time, there are no clouds on Louisiana's horizon.

South Louisiana has been considered as a locality where section honey could not be produced. Even good chunk honey was often impossible on account of there being several distinct shades of honey in the same comb. However, on a visit to Thibadoux, La., a beekeeper there showed the writer some sections made this year. They were beautifully white and well finished and would grade as No. 1 on any market. Past failures were forgotten and a new attempt will be staged next year. It has been my ambition to produce sections for many long years. "Hope springs eternal in the human breast,"—I will try again.

Co-operative honey selling bobs up every time somebody gets into a hopeful mood. Producers of South Louisiana—with a combined output of between 60,000 and 80,000 pounds—are talking it over again. We shall see how it comes out THIS time.—Geo. W. Bohne, Luling, La.

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OHIO, May 6.

Weather: Beekeepers are much interested in the condition of the weather at this time of the year, and this morning at 7 A. M. when the news broadcast announced that the thermometer stood at 43 degrees it just didn't sound so good for May 6. Practically two full days of cold rain, covering the entire state, has again completely saturated the ground. However, we should appreciate the copious rains of this spring as it will be of great advantage to the clover which was badly heaved during the open winter. Our backward spring gives this clover an opportunity to take root again.

Miscellaneous: Over the state where white clover exists there is a very good promise.

Other clover seedings also look promising except, perhaps, some of the western area which has not fully recovered from the drouths of the recent past. Severe heaving of clover seems to be worse on light soil than on dark or heavy soil.

Bees have come through the winter in a much healthier condition than for several years, perhaps for two reasons—one a mild winter and the other nearly all bees were packed

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with care and judgment due to the heavy loss over the entire country of a year ago.

There has been an exceptionally large quantity of package bees shipped into this state this spring. Brood-rearing is normal or above but if the cool weather continues, feeding may be necessary. Bees have been working on plum, cherry, pears, willow and soft maple blossoms. The dandelion bloom is coming and promises are good for a heavy flow. Pollen and nectar have been scarce due to the weather conditions.

I still predict a bumper crop for Ohio this year and I trust each beekeeper will get his full share. Prepare yourself, your colonies, and your equipment at all times to take care of more than an average crop. Then you will be sure to get your share if a heavy and continuous flow should come your way.

Don't close the season with a statement similar to the little girl who was promised her first "hot dog" at a picnic but, upon receiving it, she expressed bitter disappointment. "Oh Mother," she exclaimed disgustedly, "I didn't get anything but the tail!"—W. A. Coulter, Columbus, Ohio.

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ONTARIO, May 7.

Weather: April here in central southern Ontario gave us very little warm weather with the minimum of sunshine. In fact, the weather was steadily cool and cloudy with much rain so that bees flew only a few days. Weather turned quite warm May 2, and for three days the thermometer reminded us of summer. The willows and hard maples rushed out in a hurry and are just ready to open. But a change came yesterday and today, May 7, the outlook is dreary again with cool winds and a steady rain falling. As mentioned in my notes of last month what clover we have wintered well and with an abundance of moisture in the ground growth will be rapid when warm weather comes.

Late reports on wintering indicate "spotty" conditions, using the word in an ambiguous manner. Many apiaries wintered 100%, while in others the loss was as high as 25%. In our Wentworth County apiaries every colony that had a queen last fall appears to be in good condition. In Victoria County our loss is 25%. In York County where we have our home, some yards are 100% good while others have lost as high as 20%. Why this seemingly unreasonable variation? Simply because of quality of stores. In Victoria County where the loss is so heavy, the honey flow was light last year and all through the season honeydew was gathered more or less. In York County there was much difference in this respect even in apiaries only a few miles apart. In Wentworth County very little honey dew was gathered.

And now to explain why I say that the term "spotty" can be used ambiguously. In all apiaries where we had much loss the combs and insides of brood chambers are indeed "spotty" by reason of the worst mess of dysentery we have had in many years. Possibly heavier feeding of syrup might have prevented some of this loss but we thought that we had fed enough to minimize the effect of honeydew that we knew was in the hives, especially in Victoria County where we have the heavy loss. And this happened in a very mild winter so we can only speculate as to what might have been the result if the weather had been real cold.

Markets: Honey markets appear to be firm for this time of the year. Every few days we are getting calls for honey that cannot be supplied. Beeswax is in sharp demand at advancing prices but again we have none for sale.

Miscellaneous: Packages are arriving from the South at this date and what I have seen so far came through in excellent condition. We received 25 packages about ten days ago and they were in such excellent condition that it was a marvel to us how they could be put into cages—by funnel method no doubt—without killing more bees than were actually dead on the bottoms of the cages. In one package I counted the dead bees and found only ten. That I consider as nearly perfect a delivery as can be expected.

We are very busy and for once I will cut these notes short with the hope that for next issue more news will be available and that we can report better prospects for the province as a whole. Here's hoping that the sun will soon be shining again, and that nectar will come in from willows and maples to stop all feeding worries.—J. L. Byer, Markham, Ont.

Just News

As mentioned editorially, page 291, in May Gleanings the next big beekeepers' meeting will occur at Washington, D. C., Oct. 25, 26 and 27. The three major organizations, The American Honey Producers' League, with Chas. A. Reese, Columbus, Ohio, president, The American Honey Institute, R. H. Kelty, East Lansing, Mich., president, and The Southern Beekeeping States Federation, with E. S. Prevost, Clemson, S. C., president, will co-operate in sponsoring this meeting which promises to be the biggest and best ever held. The Hotel Washington which offers excellent facilities for such a meeting has been secured.

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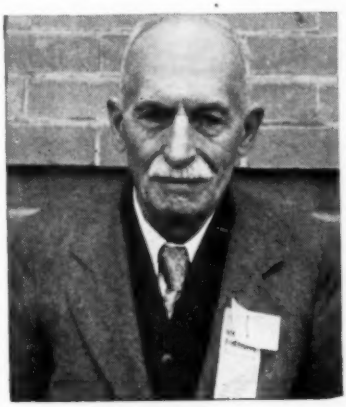
One of Ohio's outstanding pioneer beekeepers, Mr. J. F. Moore, of Tiffin, Ohio, was suddenly stricken with cerebral hemorrhage and passed on April 29, at 81 years of age, following a brief illness. Mr. Moore was loved by all who knew him and he will be



J. F. Moore as he was at San Antonio, Texas, last November.

greatly missed. He was a recognized authority on beekeeping and his opinions and advice on beekeeping problems were eagerly sought by beekeepers throughout Ohio and other states. For many years Mr. Moore maintained the largest number of colonies of any beekeeper in his section of the state. He had hoped to increase to 1000 colonies this coming season.

One of Mr. Moore's characteristics was aggressiveness. He was interested in the latest developments of our industry. He attended bee meetings regularly and was usually found on the front seat taking notes of talks given. Those who attended the San Antonio meeting last fall will remember Mr. Moore. We were fortunate in securing the accompanying picture of him.

Mr. Moore is survived by his wife and one daughter, Mrs. Pearl Chenoweth, of Saranac Lake, N. Y.

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Judging from various reports that have filtered into our office it seems evident that Studio B of broadcasting station W E E I of Boston experienced some unusual excitement recently due to a hive of bees being accidentally dropped by John Van De Poele, state bee inspector for Massachusetts, while getting ready to broadcast a program. The 30,000 bees let loose from their hive apparently took full possession of the studio for a time. The occupants, with the exception of Mr. Van De Poele, fled in terror but the brave bee inspector stood his ground until most of the bees were recovered. At least this is one method of making people more bee-minded.

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The Ohio Beekeepers' Association is making elaborate plans for the summer meeting, which is scheduled **August 5** and **6** in northern Ohio. The A. I. Root Company, Medina, Ohio, will act as host at this outstanding gathering of beekeepers. Further details will appear later.

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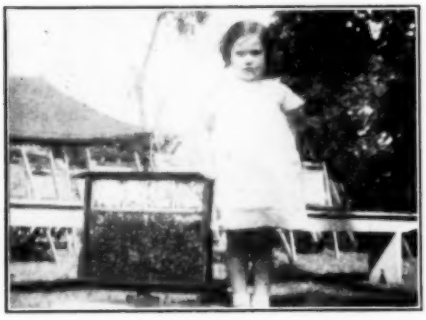
A new bulletin R 156-37, entitled, "Containers for Extracted Honey" issued by U. S. Dept. of Commerce, National Bureau of Standards, is now available at 5c per copy. Send orders to Superintendent of Documents, Washington, D. C. The bulletin tells what is being done in standardization of honey containers.

XUM

Heads of Grain from Different Fields

A Unique Observation Hive

This picture illustrates our home-made observation hive. It revolves on a pipe connection, which also serves as entrance through a glass-covered



A revolving observation hive.

tunnel, which is built in so the hive sets before a window. It can be revolved so the light strikes it at all angles.—Wm. R. Stephens, Wingate, Indiana.

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Two Odd Bee Homes

In a junk yard an old worn-out truck tire was laying flat on the ground. A swarm of bees had taken possession of it and were very busy bringing in pollen and nectar. For an entrance they used the inside opening where the rim fitted in. In another place an old five-gallon oil can was lying on the ground with the spout on one side. A swarm occupied the can and used the spout hole for an entrance. They were busy gathering nectar and pollen and seemed to be contented in the old oil can under an apple tree. —Roy Kalthoff, Waverly, Mo.

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A Good Label Paste

On page 231 of May, 1937, Gleanings I notice a recipe for label paste that I used some years ago. This paste will hold the labels well but the objection to it is that the lye in the paste reacts on labels that are printed in colors and tends to turn them yellow. A satisfactory paste that we now use is made up as follows: Mix well together one cup of wheat flour, two cups of honey and four cups of water. Steam in double boiler until transparent. This paste will hold better than the lye paste, is easy to apply, and will not discolor the labels.—G. A. Pauli, Pueblo, Colo.

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Putting Top Supering to the Test

This colony was of normal strength May 1, 1936, and wintered in a one-and-a-half-story hive. On April 15, a deep super was exchanged for the shallow and the queen had full range until June 10, the beginning of the main flow. The brood chamber was then cut down to one story. This was the last time the brood chamber was opened until the surplus honey came off. We used top supering throughout the season. I might say that the supers used contained drawn wet combs. I do not find top supering with foundation

How's this for a crop of honey?

very good, unless we have a heavy flow lasting for some time as the brood nest may become congested. Top supering cannot be beaten if you have drawn combs. This picture is of myself, just before we took honey off. The colony produced 495 pounds not counting the honey in the cappings which was 20 pounds. We left 80 pounds on this colony for winter making a total of 595 pounds of honey produced in one season.—Fred Gould, Ohio.

American Honey Institute Notes

The First Spring Honey Week

The Institute had promoted six honey weeks up to 1936. Careful records showed that it took three years of persistent effort to get producers cooperating on a basis that made Honey Week really national in scope. Each year brought a maximum amount of cooperation in one special field; for instance, 1932 was outstanding because more than $10,500 worth of radio time was devoted to honey by the allied trades. Likewise, 1933, was outstanding because more than a thousand newspaper clippings on the use of honey and recipes came from newspapers in the forty-eight states. Each year could be listed as showing a marked type of cooperation from a particular field.

Each spring the government reports showed a slow, dull period—always "honey is not moving—no demand—no buying." The Institute saw what it thought was a way to remedy this situation. Why not shift the Honey Week date and use it as a merchandising plan during the so-called "dead season." The term Honey Week was already established—the trades knew how to sponsor and promote it. All that needed to be done was to announce a shift in dates.

But producers complained—"we have our big supplies of honey in the fall and that's when we want to promote its sale"—many of them wrote the Institute thus. So the first step was to design a promotion at a time that would satisfy them. The Honey Harvest Festival came in October of 1936 and for its first year, it brought worthwhile cooperation from beekeepers, especially the auxiliary ladies. Producers were satisfied—they had their fall promotion. Now then, how about the packers—when did they have honey on hand? Surveys showed that most of them carried supplies over into the actual harvest season of the following year previous to 1936. Many packers had not, previous to 1935, found a market for their honey during the spring and summer months. Isn't honey just as good a food during these months as it is at any other time?

The Institute promoted its First Spring Honey Week April 19 to 24. The activity reports are just now coming in and what an amount of interesting data they contain. It seems that a number of producers held their honey last fall for higher prices than the buyers would pay and those producers found themselves this spring with supplies of honey on hand that they had not anticipated they would have. They welcomed the sales such a promotion as Honey Week would bring. Did they cooperate? Yes they did, and to their own profit!

Then, the packers saw in the spring promotion an opportunity for them to move considerable honey through the grocery trade. The grocery trade journals carried announcements and suggestions as to how their clients might capitalize on the promotion. And of all the types of participation that took place this spring, the grocery cooperation was probably the most outstanding. This excellent cooperation is due to the groundwork laid during the promotion of the six previous honey weeks.

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American Honey Institute Members

As you know, the actual handling of Institute finances is now in the hands of Miss Willah Goodman, the financial secretary. But the Chairman of the Finance Committee still has a responsibility in helping to maintain active support for the Institute. I am quite sure that the beekeepers who have been supporting the Institute are convinced of its value, and will be willing to continue their support in maintaining a national publicity campaign for honey. If you are reading the magazines, you have noticed that there are more stories about bees and honey in recent issues than at any other time. Practically all of the material for these articles is furnished by American Honey Institute.

With the help of beekeepers we have practically eliminated emergency calls for funds, but it is necessary that a drive for Institute members be made sometime during the year, to provide a continuous income to keep the Institute going. Last year we began our efforts in June, building a surplus on which a budget could be based in January.

(Continued on page 382)

XUM

Talks to Beginners

M. J. DEYELL

Just yesterday we had a visit from G. P. Beyleveld, Pretoria, South Africa, who has contributed some interesting articles to Gleanings recently. Mr. Beyleveld in comparing conditions in the U. S. A. with his country said that in South Africa bees get the first early pollen in August and the main honey flows occur during September, October, November and December, mainly from eucalyptus. At present bees in South Africa are inactive. Pretoria is approximately 20° south of the equator. What a difference location makes in beekeeping!

A Silly Blunder

I am supposed to be telling beginners what to do and what not to do in beekeeping and I find myself making silly mistakes every once in a while. I hate to tell this one on myself but I guess I'll have to, so that none of you readers will make a similar mistake.

A few weeks ago I purchased ten queens from the South to use in dividing some very populous two-story colonies in my apiary. All but three of the queens were used during a part of an afternoon while checking through the yard. These three queens were put into the pocket of my automobile, to be used a few days later. When I examined the queens next morning imagine my surprise and disgust to find them dead. At first I thought they were simply chilled, so put them in a warm place but they did not revive. They were as dead as a door nail. There had been a light frost which was too much for them.

I'm naturally Scotch and hated to lose the queens and the $2.25 I paid for them. **Moral:** Be sure to put caged queens in a reasonably warm room, (especially early in the spring) until they are introduced.

Importance of Intelligent Apiary Management

In order to secure the maximum crop of honey it goes without saying that beekeepers must manage their bees properly. Some beginners seem to think that bees will look after themselves, that all that is necessary is to put on a super occasionally during the honey flow, then watch the bees carry in the honey.

It is very important that each beekeeper make a study of his own location, with a view of knowing the major and minor honey plants, the sources of pollen and when the main honey flows occur. The manipulation of colonies should be timed quite accurately to have colonies up to their peak of strength when the main honey flow starts. Frequently much of the honey crop is lost because colonies are too weak to take full advantage of the flow.

June a Busy Month for Beekeepers

In the southern states beekeepers in some regions have harvested a crop and are busy preparing it for market. In the northern states and Canada the main honey flow from clovers starts this month and beginners as well as more experienced beekeepers are busy preparing and putting on supers for the honey flow.

Importance of Supering Early

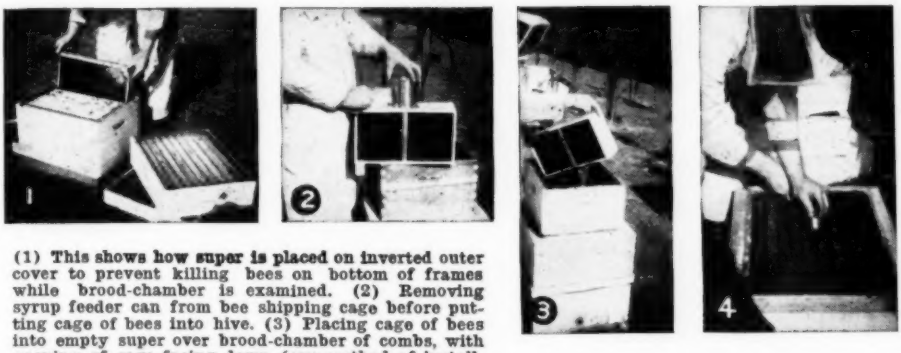
Tons of honey are lost each year because beekeepers fail to put on supers in ample time. Frequently the honey flow is on before beekeepers realize it and consequently the bees will clog the brood chambers with honey and begin to cluster in front. Under these conditions colonies usually start queen cells and swarm in a short time. If a swarm should come out, see page 370 of this issue on how to hive a swarm.

Supering for Extracted Honey

There are two methods of supering. The first is bottom supering. This means that a super is added directly over the brood chamber and on the queen excluder. When this first super is partly filled, another super is given directly over the queen excluder and underneath the first super given, and so on, until the required amount of supers are given. This method has been used for years. It necessitates lifting off and on filled and partly filled supers, and naturally requires considerable labor, especially if the piles of supers are high.

Top Supering an Easier Method

During the past four years we have



(1) This shows how super is placed on inverted outer cover to prevent killing bees on bottom of frames while brood-chamber is examined. (2) Removing syrup feeder can from bee shipping cage before putting cage of bees into hive. (3) Placing cage of bees into empty super over brood-chamber of combs, with opening of cage facing down (one method of installing a package.) (4) Placing queen in introducing cage between combs in brood-chamber.

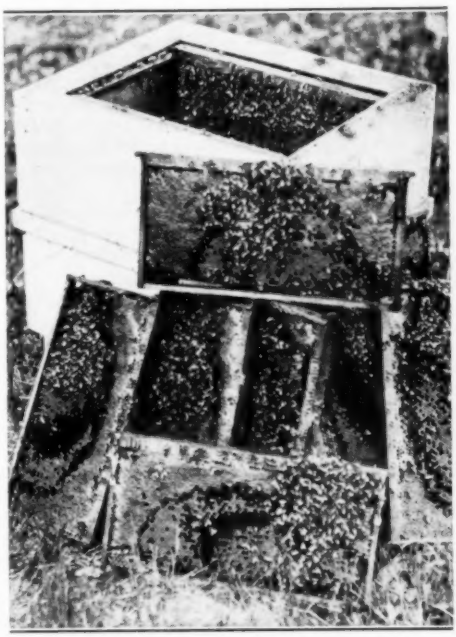
been practicing top supering. It is very simple, in fact, it is so simple that there is practically nothing to it. The first super is placed over the brood chamber on top of the queen excluder. The next super is placed on top of the first, and the third super on top of the second, and so on. See page 366 of this issue and note what happened to Mr. Fred Gould's 15-story colony where top supering was used. Imagine if you can, what a complicated and difficult matter it would have been for Mr. Gould to have lifted off and on all of those supers in order to have placed the fresh supers on the bottom of the pile each time a super was given. It is a comparatively easy matter to remove the hive cover to take a peek into the super on top to see whether or not another super is needed. However, in Mr. Gould's case this necessitated the use of a ladder.

Manipulation of Food Chamber During Main Honey Flow for Extracted Honey

When the food-chamber was first used it was customary to keep it at the top of the pile of supers during the honey flow, the queen being confined by a queen excluder, to a single brood-chamger. This meant lifting the food-chamber off and on each time a super was added. At present we place the queen excluder over the food-chamber, giving the queen access to the combs of the brood-chamber and food-chamber during the entire season. The food-chamber hive may be called a double brood-chamber hive. This plan simplifies management and gives splendid results. When top supering is used in connection with the double brood-chamber plan the entire procedure is simplicity itself. The main thing to keep in mind is that supers must be given liberally and in plenty of time to avoid congestion in the brood-chamber. It does no harm to put on two supers at one time, instead of one, during a good honey flow.

Colony Manipulation for Comb Honey

Some beekeepers are telling us that double brood-chamber colonies can be used for producing comb honey. By this is meant that comb honey supers may be placed on top of a double brood-chamber.



This two-story or deep food-chamber hive had brood in 16 combs on May 24 and an abundance of honey and pollen.

Perhaps so. We have never given this method a good try out but hope to in the near future. The late Mr. Demuth, one of the best comb honey producers, used food-chamber or two-story hives up to the beginning of the main honey flow in order

(Continued on page 377)

XUM

Asked and Answered

More Than One Egg in a Cell

Question.—What makes a queen lay several eggs in one cell? I have had two queens do that for about a month.—Virgil Smith, Mississippi.

Answer.—Occasionally a young prolific queen introduced to a weak colony will lay more than one egg in some cells for a short time, presumably because she is hampered in her laying, because of the insufficient amount of worker bees in the colony to care for the eggs she is capable of laying. It is possible your two colonies in question have laying workers. If no queen is found and the eggs are scattered around promiscuously, some in drone and some in worker cells, some attached to the side of the cells instead of the center of the bottom, and several eggs in one cell, it may be assumed that laying workers are present. These are worker bees that lay eggs but the eggs produce only drones. If a laying worker colony is strong in bees and the season is not far advanced it should be given a laying queen. Such a colony may not accept a queen readily, so it is usually advisable to unite a laying worker colony with another colony using the newspaper method, which consists of placing one thickness of paper between the two colonies that are placed together.

How to Hive a Swarm

Question.—I have had some difficulty in hiving swarms—that is, the swarms do not store much surplus. Last year I hived a large swarm and two small swarms from one hive. The large swarm put up some honey but the small swarms hardly made enough for winter. Just how should I go about hiving swarms?—J. L. Small, West Virginia.

Answer.—You do not say whether you are producing comb or extracted honey. In the production of extracted honey it is usually possible to control or prevent swarming by supplying plenty of supers in advance of the time they are actually needed. Congestion within hives is the prime cause of swarming, and liberal supering prevents this congestion. In comb honey production swarm control is more difficult, because it is necessary to crowd the bees down to have them properly fill and cap the sections. If a swarm issues and alights on a bush or tree, the hive from which the swarm issued should be moved to a new stand at least five or six feet away from its original location. Another hive containing either drawn combs or full sheets of foundation should be placed on the old stand. The swarm should be shaken in front of this new hive on the old stand. Ordinarily, the swarm will enter this hive. When full sheets of foundation are used for the swarm it is an advantage to take from another hive a comb of brood to put into the hive intended for the swarm. This comb of brood helps to get the swarm established in the new home more readily. Any supers that may have been on the colony that swarmed should be put on the new hive containing the swarm. Bees that are in the fields while the swarm issues will return to the new hive on the old stand to join the swarm. In about six or seven days the parent hive that has been set aside may be removed to a new location at least 15 or 20 feet away. If this hive is removed during the middle of the day the field bees from this parent hive, when returning, will go to the new hive containing the swarm and thus the swarm will be further strengthened. In due time there will be a young laying queen in the parent hive.

Finding the Queen

Question.—I have trouble finding the queen. Is there any really successful method I can use?—A. M. Lowden, Illinois.

Answer.—Unless one is finding a queen to remove her in order to introduce a new queen it hardly seems necessary to actually see the queen in a colony each time the bees are examined. The important thing is to know that the queen is doing good work. An examination of the brood combs is sufficient to determine the quality of a queen. If she lays prolifically and her brood is compact and if her bees are well marked, reasonably gentle and good workers you may be assured that the queen is of good quality even though she may not be seen. Usually a queen may be found by using as little smoke as possible. The hive should be opened during the middle of a warm day when a large percentage of the bees are in the

fields. Remove the comb at one side of the hive. Examine it, and then stand it on end near the front corner of the hive, so as not to interfere with the flying bees. The remaining combs should be carefully examined on each side until the queen is found. She will usually be found on one of the center combs containing brood.

Fussing with Bees Too Much

Question.—I have just bought a hive of bees. I like to look at them every day. They sting worse some days than others. Why is this?—J. A. White, Massachusetts.

Answer.—A beginner should never open a hive on chilly or cool days. Select a day when the sun shines and the temperature is around 65 to 70, or more. Before opening a hive, blow a little smoke in the entrance, then pry up the cover so as to leave a little crack, and blow smoke in the opening. Gently lift the cover and follow up with more smoke. A beginner who has a case of real bee fever may be opening his hive or hives too much. If he leans a comb of brood against a hive on a chilly day the brood may be chilled.

An Aggrieved Neighbor

Question.—My neighbor complains that my bees are stealing his honey out of his fruit trees and he demands that I call them off as the honey belongs to him.—F. A. Kline, New Jersey.

Answer.—In this day and age it seems impossible that one should be so ignorant of the fact that the bees are actually doing a service in making more and better fruit. We advise you to hand him one of our booklets on "Bees and Fruit." Tell him, if he is not convinced after reading this, to consult some of the United States authorities or his nearest Experiment Station.

A Serum for Bee Stings

Question.—Is there such a thing as a serum to counteract the effect of bee stings?—E. B. Hampton, Utah.

Answer.—Your question is rather difficult to answer because I do not know what you are referring to. Do you mean to administer some substance to immunize people against stings or to counteract the affects after a person has been stung? With regard to the latter, namely, when a person becomes seriously ill after being stung the best remedy is the injection of epinephrine hydrochloride solution (1:1000) or an adrenolin solution which, of course, must be administered by a physician. Relating to the first conditionality, namely, to protect persons who are unusually sensitive to bee venom before they are stung I would suggest you have your physician or yourself read the subject extensively treated in my book "Bee Venom Therapy" on pages 113, 114, 119 and 121. I found a very simple way to immunize extremely sensitive patients. I give them one sting on the arm and take out the sting immediately. It is important to use a fine instrument and grab the shaft and not the poison bag because if it is done in such a manner the venom is squeezed into the wound. With such procedure the reaction is usually very slight even in the most sensitive people. The next sting is left in the wound, maybe for one or two seconds, and the third one a little longer and so on. Later even several stings can be applied and left in full time without reaction. That is my experience.—Dr. Bodog F. Beck, New York City.

Dandelion Honey

Question.—I have been extracting the dandelion honey from my combs but it is so bitter that none of us can eat it. What can I do with it?—W. L. Kellogg, Iowa.

Answer.—As a rule no combs should be extracted in the spring. No matter how bitter the honey or however unpalatable it may be, the honey, good or bad, should be left in the combs. To extract in the spring may result in starvation unless the bees are fed sugar syrup. Of course in the southern states early flows may be extracted, but as a rule the bees should have all these early stores in order to build up for the major flow that may follow later.

Installing Bees With a Frame of Brood

Question.—Is it advisable to put a frame of brood with a package of bees at the time bees are installed in the hive?—M. A. Johnson, Pennsylvania.

Answer.—There would seem to be an advantage in doing this because the presence of brood would naturally help the bees to get established readily in their new home. However, the presence of brood, especially eggs and young larvae would give the bees an opportunity to start queen cells, in which event the queen with the package of bees might be rejected. Therefore, we consider it inadvisable to put brood in a hive at the time a package with a queen is installed. It would be perfectly all right to give the package of bees a comb of sealed brood with emerging bees, about two weeks after the package has been installed to strengthen the colony at the most critical time in the development of a colony from a package.

XUM

Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in the 15th of month preceding.

HONEY FOR SALE

The reliability of honey sellers is not guaranteed, although strict references are required.

CHOICE CLOVER, extracted, 8c. Howard Grimble, Holcomb, N. Y.

400 cans Michigan white clover honey. W. S. Wiggins, Muir, Michigan.

CHOICE white clover honey in 60-lb. cans, J. F. Moore, Tiffin, Ohio.

FINE QUALITY CLOVER in new 60's, 7¼c. H. B. Gable, Romulus, N. Y.

FANCY clover honey, case or quantity. J. Stahlman, Grover Hill, Ohio.

MICHIGAN white clover honey. New sixties. Orval Dilley, Grand Ledge, Mich.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY—Light and light amber extracted. F. W. Lesser, Fayetteville, N. Y.

CHOICE MICHIGAN clover honey in new 60's. David Running, Filion, Mich.

CHOICE MICHIGAN clover honey in new 60's. Arthur Thayer & Sons, Freeland, Mich.

CHOICE white clover honey in new 60's. Sample, 15c. Noah Bordner, Holgate, Ohio.

ORANGE, palmetto, or amber honey in new sixties. Peter W. Sowinski, Fort Pierce, Fla.

FANCY white clover honey in 60-lb. new cans, 8c. Leslie A. Davis, Union City, Rt. 2, Ind.

MICHIGAN'S finest well ripened white honey in new 60's. Sample, 15c. Jay Cowing, Jenison, Mich.

FOR SALE—Fancy white clover honey in 60-lb. cans, 7½c lb. Sample 15c. Jos. H. Hoehn, Ottoville, Ohio.

WHITE CLOVER extracted, 8c; fancy buckwheat, comb, $2.50 case; amber, $2.75. C. B. Howard, Geneva, N. Y.

HONEY FOR SALE—All kinds, any quantity. H. & S. Honey & Wax Co., Inc., 265-267 Greenwich St., New York, N. Y.

SELECT LOTS—Comb and extracted honey. Prices right. Write us about your needs. A. I. Root Co., 224 W. Huron St., Chicago, Ill.

HONEY PACKERS—Write us for prices on carload lots of California and western honeys. We stock all varieties. Hamilton & Company, 108 West Sixth St., Los Angeles, Calif.

SUPPLY your customers with good honey. You only pay freight from San Antonio. Truckers and car lot buyers should write. Uvalde County Apiaries, J. A. Simmons, Prop., Sabinal, Texas.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

FOR SALE—Extracted clover honey in sixties, 8c; amber, 7c. H. G. Quirin, Bellevue, Ohio.

EXTRACTED HONEY for sale. Write for prices. The Hubbard Apiaries, Onsted, Michigan.

NEW CROP—Tupelo honey, 50 gal. bbls. and 60-lb. cans, 7c and 8c per lb. Stevenson's Apiary, Apalachicola, Fla.

WHITE CLOVER HONEY—Dozen 5-lb. pails, $6.00; 60-lb. tin, $5.00. F. L. Barber, Lowville, New York.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Col.

WE ARE STILL holding some of our best Michigan clover honey for you. This best honey will cost you but 8c per pound, on track here, in 60 lb. cans E. D. Townsend & Sons, Northstar, Michigan.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyers' financial responsibility and advise all beekeepers to sell for cash only, or on C. O. D. terms except when the buyer has thoroughly established his credit with the sellers.

CLOVER honey, extracted, case, truck or carlots. Send sample and price. F. M. Babcock, Fredonia, N. Y.

WANTED—White clover and amber extracted honey. Mail samples and price. Jonkman & Oosting, Evergreen Park, Ill.

WANTED—Extracted honey in trade for chicks. Prefer 10-lb. pails. Barred Rocks, Reds, Wyandottes, White-Brown Leghorns. Also sexed chicks. Ames Hatchery, Deerfield, Wis.

WANTED—White, amber, and overheated honey. State price. C. Jankowski, Russell, Ill.

WANTED—Carlots of honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—White and Amber Extracted Honey, any quantity, also Beeswax. Write The Fred W. Muth Co., Pearl & Walnut Sts., Cincinnati, Ohio.

WANTED—Clover extracted and comb. Any amount. Quote price first letter. Central Ohio Apiaries, Millersport, Ohio.

FOR SALE

OLD-TIME straw beehives. Photos free. G. Korn, Berrien Springs, Mich.

If you are interested in a 1400-colony bee outfit, located in a fine honey territory, write Jacob Epstein, Idaho Falls, Idaho.

FOR SALE—60-pound tin cans, used once, bright, good as new, 50c per case of two; $40.00 per 100 cases. Will exchange for clover honey. F. M. Babcock, Fredonia, N. Y.

NEW 1-inch Lobee honey pump, has never been unpacked. Noah Bordner, Holgate, Ohio.

YOUR WAX worked into quality medium brood foundation for 15c per pound. Thin super, 22c. Fred Peterson, Alden, Iowa.

WE CARRY a full line of beekeepers' supplies. Honey taken in exchange. Prairie View Apiaries, 12213 12th St., Detroit, Michigan.

ELECTRICAL uncapping knives with transformer 110-120 volts, 60 cycles, $14.00. Paul Krebs, 8000 Fulton Ave., Detroit, Mich.

COMB FOUNDATION at money-saving prices. Plain, wired and thin section. Wax worked at lowest rates. E. S. Robinson, Mayville, N. Y.

SPECIAL—Limited supply of new 1½ story observation hives. $5.00, without glass. Discount to dealers. H. Blitz, P. O. Box 3452, Phila., Pa.

ATTRACTIVE prices on bee supplies and comb-foundation. Send for catalog. Saves you money. The Fred W. Muth Co., Pearl & Walnut Sts., Cincinnati, Ohio.

WAX worked into comb foundation, accepted for trade in supplies or bought. Write for our proposition and shipping tags. Walter T. Kelley, Paducah, Ky.

QUALITY bee supplies. Prompt shipment. Reasonable prices. We take honey and beeswax in trade for bee supplies. The Hubbard Apiaries, Onsted, Michigan.

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

BEST QUALITY soft white pine Hoffman frames, $30.00 per thousand. Complete line of bee supplies manufactured by us. All prices the lowest. Free catalog. The Walter Kelley Co., Paducah, Ky.

FOR SALE—Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit, Hamilton Bee Supply Co., Almont, Michigan.

EFFECTIVE AT ONCE—New prices on queen excluders. 4143, 8-fr. unbound zinc, 1, 45c; 10, $4.00; 4243, 10-fr. unbound zinc, 1, 48c; 10, 4.30. 4244, perforated zinc sheet, $3.80. The A. I. Root Co., Medina, O.

BOOKING ORDERS NOW. New 60's, 2 in a wooden case, 90c per case. Orders for 75 cases, deduct 5%; 140 cases, deduct 10%; f. o. b., Phila. Subject to change. H. Blitz, P. O. Box 3452, Phila., Pa.

BEES AND QUEENS FOR SALE

CAUCASIAN Queens, 50c. Package bees, agreement prices. Millers' Caucasians, Three Rivers, Texas.

YOUNG three-band Italian queens, at market price, mailed anywhere any time. D. W. Howell, Shellman, Georgia.

THREE-BANDED Italian queens, 50c each. Satisfaction guaranteed. Lamar Bee Co., Box 1503, Baton Rouge, La.

ITALIAN Queens, reared by Double-graft method. June packages. Alonzo McKay, Rt. 1, Vicksburg, Mississippi.

DARK ITALIANS—The best bees on earth, we think. Young laying queens, full of eggs and pep. Price 50c each. J. F. Diemer Co., Liberty, Mo.

CREGLE ITALIAN QUEENS, need no pollen substitutes, they build up your brood-nest best, 50c each. Ephardt's Honey Farms, Luling, Louisiana.

ITALIAN QUEENS. W. G. Lauver, Middletown, Pa.

FANCY GOLDEN or three-band Italian queens, 50c each. Package bees and nuclei. Guilford Apiaries, Guilford College, N. C.

10 COLONIES BEES in double-brood chamber 10-frame hives. 20 comb honey supers. Never had any disease. Roy R. Harner, Valley View, Pa.

LEATHER-COLORED Italian Bees and Queens. Marketing agreement prices. 15% dealers discount. Try us with an order. M. I. Tindal Bee Co., Greenville, Ala.

GOLDEN ITALIAN queens, untested, 50c; select untested, 75c; tested, $1.00; select tested, $1.50. Satisfaction guaranteed. Sam Hinshaw & Son, Randleman, N. C.

LONG-TONGUED Caucasian bees and queens. Gentle, prolific, hardy. Better honey gatherers, winter better. Queens, 50c each. 15% discount to dealers. P. B. Skinner Bee Co., Greenville, Ala.

QUALITY QUEENS—3-banded Italians, prolific, gentle, great honey-gatherers, safe arrival. No disease known in our apiaries. Carolina Apiaries, Dalice E. Crawford, Mgr., Haw River, N. C.

CAUCASIAN QUEENS, 50c each. After June 1st. 2-lb. pkg. $1.95; 3-lb. pkg. $2.55. 15% discount to dealers. Prompt shipment, safe arrival, satisfaction. Lewis & Tillery Bee Co., Rt. 4, Greenville, Ala.

EXTRA FINE Italian Queens 50c. Reliable, long experienced breeding insures quality. Send me your orders and be glad you did. 100% satisfaction guaranteed. G. H. Merrill Bee Co., Greenville, S. C.

THREE-BANDED Italian bees and queens of fine quality. A trial order will convince you. Satisfaction guaranteed. Marketing Agreement prices. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, N. C.

GOLDEN Queens. Excellent quality that produce hardy, gentle workers. Personally reared. Untested, 50c; tested, $1.00. Health certificate. Safe arrival and satisfaction guaranteed. O. E. Brown, Route 1, Asheboro, N. C.

MY BREEDERS in the South write me that they are well supplied with bees and queens for immediate delivery, either Italian or Caucasian. You know that the price is lower during the balance of the season. E. D. Townsend, Northstar, Michigan.

"SHE-SUITS-ME" QUEENS—None better. Only choice selected queens sent out. Line-bred 3-banded stock. Prices after May 20,—one laying queen $1, six for $5. Special price on large quantities. Send for circular. Allen Latham, Norwichtown, Conn.

THE NORMA ROY APIARY ITALIAN BEES—2 pounds bees with queen, one standard frame brood, $2.00; 3 pounds with queen, one frame, $2.55. Queen introduced in packages. Full weight and a health certificate with shipments. Norma E. Roy, Hessmer, La.

THREE-BANDED Italian bees and queens. Guaranteed to be the best that can be produced. It costs too much to talk here, but if you'll buy your bees and queens from me they will speak for themselves. I guarantee to please you. Marketing agreement prices. D. P. Green, Deland, Fla.

GOLDEN Italian queens that produce workers. Very gentle to handle. Good honey gatherers. 30 years a breeder. I don't let a colony build over 12 cells at the time to get good queen. Satisfaction guaranteed. Untested, 50c; tested, $1.00; select tested, $1.50. D. T. Gaster, Rt. 2, Randleman, N. C.

XUM

Reliable Service Reliable Package Bees and Queens

Three Band Italian Bees and Queens
Price List, Via Express Collect

2-lb. package bees with select untested queen.....$1.95 each
3-lb. package bees with select untested queen.....$2.55 each
Select Untested Queens...50c each
Select Tested Queens...$1.00 each

Prices of package bees via mail quoted on request.

15% discount on the above prices will be allowed dealers on bees for re-sale.

Support the American Honey Institute.

Formerly Hayneville Apiary Co.

W. E. HARRELL
HAYNEVILLE, ALABAMA

Knight's

Dependable Queens

TREAT YOURSELF to THE BEST Line-bred, Three-banded Leather-Colored Italians, Accredited and Certified by Alabama State Department of Agriculture.

They are extra large, producing large bees. All queens carefully reared and are the best that can be produced.

All queens guaranteed mated pure.

PRICE POST PAID Select (one grade), 50c. No charge for clipping. No disease. Prompt shipment.

Jasper Knight, Hayneville, Alabama

EXTRA YELLOW Italian Queens that produce bees a little more yellow than three-banded; more gentle and just as good workers. Untested, 50c each; tested, $1.00 each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, Rt. 2, N. C.

CHOICE bright Italian queens that are a pleasure to work with and be proud to own. The stock has been bred and selected in the North the past 34 years for good winterers, hustlers, gentleness, and fine color; 75c each; dozen, $8.00; breeders, $6.00. Emil W. Gutekunst, Colden, N. Y.

EARLY PACKAGE BEES—Prompt shipment, beginning May 1. Two-pound package bees with queen, $2.45; three-pound, $3.15. Shipped by express collect, or if by parcel post, add postage. Choice hardy Italian queen, 75c. Safe arrival guaranteed. Birdie M. Hartle, Box 363, Reynoldsville, Penn.

WE TURN OUR ATTENTION from package bees to queens now. Our improved introducing cage will save you time, money and worry. No loss in introduction. If requested, we mail your queens in them. Follow directions. We guarantee she will be accepted or replacement free. Try our queens. You will like them. 50c each. Silver Run Apiaries, Route 1, Phenix City, Ala.

LIGHT 3-BANDED ITALIAN QUEENS—We are one of the largest growers of queens in the United States, producing 100 queens or more daily. We ship only young, laying queens and guarantee them to be purely mated and satisfactory to you. You're the judge. Price 75c each. To dealers, 65c each. We need dealers in many localities. The Walter T. Kelley Co., Paducah, Ky.

HELP WANTED

WANTED—Quick, ambitious young man to help with bees. State age, experience, wages expected with room and board. Frank R. Parmelee, Le Roy, N. Y.

MISCELLANEOUS

WANTED—20 colonies or more on shares, or will buy. Windish Bros., White Pigeon, Mich.

THE BEE WORLD—The leading bee journal in Great Britain, and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, L. Illingworth, The Way's End, Foxton, Royston, Herts, England.

100 LETTERHEADS ENVELOPES $1.00 DELIVERED

Printed on 20 lb. Hammermill Bond. Copy limited to three lines. Cash or C. O. D. Satisfaction guaranteed.
NEWBERRY'S PRINT SHOP, Creston, Ohio

The Same Good Golden Italians

Queens, rest of the season, each.$ .50
2-lb. pkg. bees with queen..... 1.95
3-lb. pkg. bees with queen..... 2.55
Your orders appreciated.

E. A. SIMMONS APIARIES
Powell Owen, Mgr. **Greenville, Ala.**

Queens Queens

Three Banded Leather Colored Italians

Three years of comparative tests have proved that this strain has superior qualities.

The prolificness of these queens will surprise you. Beautiful combs of solid brood to insure strong colonies in the shortest time.

We are taking this opportunity to thank our customers for their confidence in us and their fine response in selecting this strain during the past spring.

Price 50c each. **15% Discount to Dealers.**

GARON BEE COMPANY

Donaldsonville, Louisiana

Italian Bees

Combless Packages

After June 1st.

2-lb. pkg. with queen,....$1.95
3-lb. pkg. with queen,.... 2.55
Queens, each,..... .50

W. O. GIBBS
Brookfield, Ga.

Package Bees and Queens

We can now make prompt shipments of package bees and queens. Place your order and see how quick the bees come.

Order from this ad.

3-lb. pkg. and queen, each.....$2.55
2-lb. pkg. and queen, each..... 1.95
(By express F. O. B.)
Queens, each..... .50

Discount to dealers.

TAYLOR APIARIES, Luverne, Ala.

XUM

FOREHAND'S THRIFTY BEES!

Are guaranteed to please.
Combless packages and queens.
Full-weight packages.
Light shipping crates.
Young, THRIFTY bees.
Forty-five years' experience.
Three-banded Italians.

Untested queens, each.....$ .50
2-lb. package, with queen..... 1.95
3-lb. " " " 2.55

15% discount to dealers.

W. J. FOREHAND & SONS
Fort Deposit, Ala.
Breeders since 1892

LOWER PRICES

Although prices are now lower you will get the very best in bees and queens. Our queens are reared under most modern methods and good hot weather assures them to be the best. June packages are profitable. Make increase or help those weak colonies with a package of our young bees and you will see the DIFFERENCE when you take off your honey. We can ship by RETURN express or mail so order TODAY.

2-lb. pkg. with queens, each.....$1.95
3-lb. pkg. with queens, each..... 2.55
Selected laying queens, each..... .50

15% Discount to Dealers

N. B. SMITH & CO.
CALHOUN, ALABAMA

June Prices are Down

Take advantage of lower prices and requeen those failing colonies with queens of **PROVEN QUALITY.**

Untested queens, each....$ .50
3-lb. pkg. with queen.... 2.55
Other sizes at agreement prices.

Rossman & Long
Moultrie, Georgia

Talks to Beginners

(Continued from page 369)

to produce very populous colonies. Each colony was then reduced to a single story. It is not uncommon to find double brood-chamber colonies that have brood in 15 or 16 combs. The oldest brood should be selected from the two stories and put into the bottom brood-chamber with the queen. The remaining combs containing honey and some small patches of brood with adhering bees should be placed in what was the upper brood-chamber, on a bottom board, beside the old hive and given a cover. The bees in this set-aside hive may be given a queen, or, in three week's time a young queen will be reared from larva. If there are available queen cells in other colonies, one of these ripe cells may be given to this set-aside colony and in ten or twelve days this hive will have a young laying queen.

This set-aside hive serves two purposes —it produces a young queen and during a normal season it is filled with honey and becomes the food-chamber. When the surplus honey is removed from the parent hive, this food-chamber colony with young queens is set back onto the parent hive. If this unitng is done in late September no newspaper is needed between these two hives. As a rule, the young queen in the upper or food-chamber hive will be retained and the old queen below will be killed. This is requeening without dequeening. This method of manipulating the food-chamber can also be worked in the production of extracted honey, if desirable.

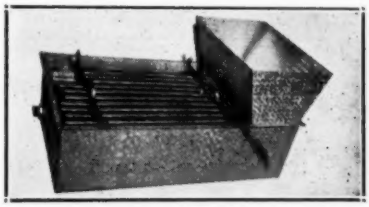
Supering for Comb Honey

A few beekeepers are top supering for comb-honey production. We hope to give it a trial as soon as possible. It may work. One possible objection to it is that some of the sections in the bottom supers might become travel-stained. For this reason the orthodox method of supering from the bottom for comb honey may be preferable. We shall be glad to have the experiences of those who have occasion to try top supering for comb honey under favorable conditions.

BIG ADS, BIG CLAIMS

don't get honey. Our bees do.
Marketing Agreement Prices.
SULLIVAN'S APIARIES
Gilbertown, Ala.

It will pay you to investigate the
Brand Capping Melter



Write to the:
Superior Honey Company,
The A. I. Root Company,
Dadant & Sons,
A. G. Woodman & Co.,
C. W. Aeppler Co., Oconomonoc, Wis.
or
The Brand Honey Farms
Mitchell Nebraska

Miracle Queens

Eighteen standard combs of brood in February for a three-year-old queen! On top of this produced more honey and bees than anything in our yards for two years. Our breeder for this year did these things. This remarkable power is yours if you order HONEY BOWL queens, and the truth of this astounding record will be seen.

Health certificate and 100% satisfaction. Air Mail service 7 days per week. Only 50c each for any number. 15% off to dealers. Clipped free.

Honey Bowl Apiaries
Reserve, Louisiana

Queens-3-banded leather-colored

Daughters of queens imported from Northern Italy. Great honey-gatherers.
BRIGHT ITALIAN QUEENS
Bred from queen now four years old, whose colonies, in her third year, (1936), produced 300 pounds of surplus honey. I have been breeding this strain for 12 years and guarantee them to satisfy, and not to sting you to death. Specify which stock is wanted. Prices, 1 to 24, 60c each; 25 or more, 50c each. 15% to dealers.

WEST BRANCH APIARIES
GROVER HILL, OHIO

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS.

XUM

Our New Headquarters

The above is a picture of our building which we own. We have 2,500 full colonies of bees to ship packages from. We have 3,400 queen-mating nuclei which will be in full operation prior to April 1. We have an additional number of colonies of bees to support our queen yards without interfering with our package shaking colonies.

We do not intend to beg you for your business but we would like for you to know that we have quality goods and can give you the best of service.

We can handle an extra 2000 packages and 500 standard nuclei for June delivery. Correspondence invited.

THE PUETT COMPANY

"Where Satisfaction Is a Certainty" HAHIRA, GEORGIA

BETTER-BRED QUEENS THREE-BANDED ITALIANS

JUNE PRICES

[Immediate Delivery]

Untested queens	$ .50
2-lb. packages with queens	1.95
3-lb. packages with queens	2.55

15% Discount to All Dealers

Add a package of young bees and watch that weak hive perform. We are prepared to make prompt shipment on all orders. Replace those old fading queens with our better bred stock, and make your colonies pay off. June is also a good month to make increase.

CALVERT APIARIES, CALVERT, ALABAMA

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS.

JENSEN'S

"MAGNOLIA STATE" Strain Three-Banded Italians

Last Call! We've sold out pretty close, but can still supply those late RUSH ORDERS. Baby bees, and the season's finest queens. With a reputation to uphold, we are supplying queens of our own stock only, and reared by us personally. Some queen orders had to be declined, but our schedule has been maintained to the 'nth degree through the co-operation of dependable and loyal employes. June prices make our packages and queens outstanding bargains. Bring up your per colony average by the addition of Booster packages to colonies that have not reached peak strength in time for the flow. Colonies with poor queens can still be made producers by the introduction of regular packages with queens. They'll pay good dividends.

Prices beginning June 1st.

2-lb. Packages with Select 1937 Queens, each	$1.95
3-lb. Packages with Select 1937 Queens, each	2.55
2-lb. Booster Packages (Queenless), each	1.45
3-lb. Booster Packages (Queenless), each	2.05

Nuclei:

2 Frames Brood and Honey, 2 pounds bees, and queen introduced, each	$3.75
3 Frames Brood and Honey, 3 pounds bees, and queen introduced, each	5.25
Queens, balance of season, each	.50

JENSEN'S APIARIES, Macon, Mississippi

Queens, 50c, by Return Mail

AS GOOD AS CAN BE BOUGHT. Requeen your colonies NOW with JOHN A. NORMAN'S bright 3-banded Italians. You will be more than pleased with MY large yellow selected honey-gathering strain. They will build up and increase your honey profits. Every queen guaranteed purely mated, safe arrival and SATISFACTION.

Prices: June 1 to Oct. 31—Untested queens, 50c; tested, $1.00; 1 2-lb. pkg., $1.95.
All packages F. O. B. Express. State health certificate furnished with each order.

JOHN A. NORMAN Box 38 LAPINE, ALABAMA

GET RUNNING'S BEES

And Get Honey—They Satisfy
PACKAGES AND QUEENS

The kind WE use in our extensive Michigan Apiaries, where WE produce honey by the carload.

ALL ITALIAN STOCK

Service guaranteed. Stock bred for honey-getting and gentleness. Apiaries accredited and certified by Alabama Department of Agriculture. Get our free circular. YOU can now get RUNNING'S bees and queens as cheap as others.

All bees and queens shipped from our Alabama Apiaries.
2-lb. pkg. and queen, $1.95; 3-lb. pkg. and queen, $2.55. Untested Italian Queens, 50c. No discounts.

DAVID RUNNING APIARIES
Sumterville, Ala., or Filion, Mich

Booking Orders Now

For Hollopeter's three-band Italian Queens.

We have never been able to supply the demand for early queens, and sometimes fell short of enough for later demands.

With doubled capacity and your cooperation in anticipating your needs as far ahead as possible, SERVICE and SATISFACTION at all times is our aim.

Shipping season begins May 15th. Untested queens, till June 1st. 75c each: after June first, 60c; two or more, fifty cents each.

WHITE PINE BEE FARMS
Rockton, Pa.
(With Gleanings from 1911)

Berry's Reliable Package Bees and Queens

THREE-BANDED ITALIAN BEES & QUEENS

43 Years a Beekeeper and Breeder — 25 Years a Package Shipper

Safe arrival, full-weight packages and satisfaction in every way is guaranteed. Where queens are wanted with wings clipped there is no extra charge.

3000 Full Hives of Bees — 4000 Strong Nuclei

Age, Ability and Experience Count

Low June Marketing Agreement Prices On Now

M. C. BERRY & CO., Box 684, Montgomery, Ala.

"Words Without Actions are Dead"

You can write a fine description about the kind of queens that are offered for sale but after all will the worker bees **WORK?**

"Beautiful", "Wonderfully Marked", "Gentle" are fine terms but what about the crop of honey stored?

Root Northern Bred Queens Produce Results

Large orders are booked now for delivery after June 15.

Prices: 1 to 4 queens 75c each, 5 to 24, 70c each; 25 or over, 65c each.

Queen-mating nuclei in the Basswood Apiary. Each hive contains two compartments to accommodate two nuclei. The basswood trees shown here were planted by A. I. Root in 1872. Many were cut several years ago to thin out the growth. They were used to make sections.

Orders Filled in Order Booked

The A. I. ROOT COMPANY, Medina, Ohio

Things Worth Considering

We are prepared to give you 24 hour service on all queen orders, large or small, if you demand it. You will make no mistake in ordering from us, as you will receive the best grade of three-band Italians that years of experience can produce.

We will have no more package bees this season — Sold out.

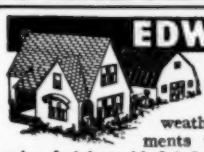
Prices for remainder of season on queens, 50c each.

15% Discount to Dealers.

SHAW & HOMAN, Shannon, Miss.

YOU MUST BE SATISFIED
WHEN YOU ORDER OUR
Caucasian or Italian
Queens, 50c. Packages $1.95 and $2.55
or your money is refunded.

LIFE is not all portrayed in $ & c.
We give, as well—FRIENDLY SERVICE
Write for folder. . BREEDER QUEENS
PROGRESSIVE APIARIES
P. O. Box 232, TEHACHAPI, CAL.



EDWARDS METAL ROOFS
Look better, last longer, cost less. Protection from fire, lightning, wind and weather. Send roof measurements today for money-saving price, freight paid. **Ask for Catalog 88.**
THE EDWARDS MANUFACTURING CO.
633-683 BUTLER ST. CINCINNATI, OHIO

For Sale!

Pure Italian Queens and Bees

Nothing but the best. Bright yellow and three-banded queens, 50c each.

1-lb. bees with young queen.....	$1.40
2-lb. bees with young queen.....	1.95
3-lb. bees with young queen.....	2.55

You send for them—they go
GRAYDON BROS.
Route 2 Greenville, Ala.

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS.

DEALERS ATTENTION

We have a special proposition of interest to all dealers or to all beekeepers who wish to become dealers of Beekeepers' Supplies. Write for information. All goods are GUARANTEED SATISFACTORY.

Falcon Quality Products

W. T. Falconer Mfg. Company
Falconer, New York

A GOOD RULE

Buy your Bees and Queens from

Alabama Apiaries

WHY?

We give you full-weight packages of pure Italian bees, purely mated queens, live delivery and prompt service. We have the bees and queens to furnish what you want when you want it.

We have been in the queen-rearing business for over sixteen years and worked with Moll Pritchard, the world's best queen breeder, four years.

Give us a trial order. Our aim, "Once a customer, always a customer."

Health certificate accompanies each order. We support the American Honey Institute. Do you?

2-lb. pkg. with queen.....$1.95
3-lb. " " " 2.55
Queens, postpaid, each..... .50

15% discount to dealers

Alabama Apiaries

MT. PLEASANT, ALABAMA

Hilbert Method Cut Comb Honey

write for our catalog which will include free full information on Cut Comb Honey Hunks and Chunks.

Jas. E. Hilbert, Traverse City, Michigan.

Insure Your Crop

Why be disappointed?

Head Your Colonies With
Nation's 3-banded Italian Queens
The Best Crop Insurance Known

Remember: "NATION'S QUEENS ARE SUPREME"

A. W. NATIONS, Donna, Texas

Breeder of SUPREME Italian Queens—They Rule

also packages and nuclei, standard prices.

AMERICAN HONEY INSTITUTE NOTES

(Continued from page 367)

Support from beekeepers has been remarkably good, and if support is maintained as well in the future as was the case during the bad years of the drouth, the Institute should be able to produce even a better program and create more publicity, with an increasing demand for honey.

We hope, therefore, that all beekeepers will join with the Finance Committee in an effort to increase the number of members for the Institute and also to increase support on a basis of $1.00 per ton for the entire honey crop. A subscription of $1.00 for every $100 of sales is the membership basis suggested for queen breeders and package bee shippers.

A really important development of the past year which shows a definite possibility in creating a large consumption of honey in the average city home, is the new type of dispenser known as the "Drip-cut Dispenser." We continually run across families using honey who previously did not serve it, because of the difficulty of serving it at the table, and the necessity of keeping the honey pitcher in a saucer. There is no longer any need for this practice, and with its elimination, the use of honey becomes increasingly popular. Associations and local groups should secure these dispensers for sale in their communities. —H. F. Wilson, Madison, Wisconsin.

Package Bees and Queens

By Pound, Ton or Car
Service—Satisfaction
Trade Agreement Prices. Write for particulars.

VICTOR APIARIES : : UVALDE, TEXAS

WHEN YOU PAY FOR

Good Bees and Queens

Be sure you get them. Order Forehand's How many times have you been disappointed in stock and service? And just think for the same price you could have had Forehand's.

Early blooming plants enable us to rear queens from natural sources.

2-lb. pkg. bees with unt. queen....$1.95
3-lb. pkg. bees with unt. queen.... 2.55
Untested queens..... .50

N. Forehand, - DeLand, Fla.

SIXTEEN CASH

- AND A -

Hundred and Three Prizes

EVERY One of them Worth While!

Your customers will thank you for telling them about

The Fourth National Honey Cookery Contest

This merchandising program is being sponsored to help YOU sell more honey. START EARLY TO PROMOTE IT.

Rules and list of prizes have been mailed to all **INSTITUTE MEMBERS.** If you are not on that list, write today for a free copy of rules, prizes, and foundation recipes.

American Honey Institute

Madison Wisconsin

XUM

Here We Are Again!

STEVENSON'S GOLDEN ITALIAN BEES AND QUEENS.

The method of raising us plus the advantage of an early and continuous honey flow make us large, uniform, and very prolific. REAL QUEENS OF QUALITY. Our bees are large, the best of honey producers, and so gentle that it is a real pleasure to handle them. Confidentially we are a worthwhile investment.

Write to

STEVENSON'S APIARIES,
Westwego, La.,

for descriptive circular. Quotations as per Marketing Agreement.

Package Bees and Queens

The rush is now over and we can fill orders promptly.

Queens that will please you.

Stock recently imported from Italy.

2-lb. pkgs. with queens.....$1.95
3-lb. pkgs. with queens..... 2.55
Select Unt. queens..... .50

The Crowville Apiaries

J. J. Scott, Prop., Winnsboro, La.

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS.

EDITORIALS

(Continued from page 357)

vading insects. They did not realize that such advice would cause death and destruction to the interests of others outside the areas where the destructive insects were at work. The California state and county bee associations are making valiant efforts to protect the interests of their beekeepers as well as others whose property and rights have been seriously affected. Other county and state associations are doing likewise. Dr. J. E. Eckert and H. W. Allinger, of the University of California, have made a definite contribution to science and to beekeeping by their investigations contained in their bulletin "The Relation of Airplane Dusting to the Beekeeping Industry."

Obviously it is a job for the American Honey Producers' League through its Legislative Committee, and no small job it is.

High Quality Italian QUEENS and Package BEES

at June Prices

2-lb. pkg. with young queen.....$1.95
3-lb. pkg. with young queen..... 2.55
Select young laying queens..... .50

15% Discount to Dealers

R. B. HERIER, Valdosta, Ga.

2 Years $1.50

American Bee Journal—monthly; published and edited by beekeepers for beekeepers. Full of pictures and tips on care of bees and selling of honey. **SAMPLE COPY FREE.**

$1.00 a year, 2 years $1.50 in U. S. A. and Canada.

Combined with Gleanings in Bee Culture—both magazines, **ONE YEAR, $1.60.** This offer good only in the United States. Address—

American Bee Journal, Hamilton, Illinois

ITALIAN QUEENS

The Best Three-Banded

For increase, requeening, swarm control.

Head all of your colonies with a vigorous young queen and you will notice a difference in your crop.

Prices are less now on both queens and packages.

PRICES

After June first

Mated Italian queens	$ .50
2-lb. pkgs. with queens	1.95
3-lb. pkgs. with queens	2.55

15% Discount to Dealers

The Stover Apiaries

Mayhew, Miss.

BEES OF GOLD

Personally reared powerful GOLDEN QUEENS, improved and bred up from Italian stock, 60c each, postpaid. Remarkably beautiful bees, gentle, large, and CHAMPION HONEY PRODUCERS!

2-lb. pkg. with queen,.....$2.30
3-lb. pkg. with queen,..... 3.00

SPOERRI APIARIES

St. Bernard, P. O., Louisiana

Mack's QUEENS

(They Speak for Themselves)

Big, hardy Northern-bred 3-band stock. Mack has spent the past 21 years developing a bee for the most particular beekeeper. If he had failed to produce really Good Stock he would have been out of the Game long ago. That's why we say "They Speak for Themselves". We are shipping queens by return mail or shortly thereafter. Please remember all our queens are fully Guaranteed.

Price 50c each.

HERMAN McCONNELL

(The Bee & Honey Man)

ROBINSON Rt.2 ILLINOIS

CAUCASIAN QUEENS FOR JUNE

Untested, each, 50c; tested, each, $1.50; select tested, $2.00. Breeders shipped in cage, each, $5.00; shipped on comb, each, $7.00. Queens offered are representative of the race. Try them and note how easy they are to handle.

BOLLING BEE CO., Bolling, Ala.

ITALIAN QUEENS AND PACKAGE BEES

SHASTA APIARIES

SHASTA, SHASTA CO., CALIF.

Shipments with State Inspection Certificate
Marketing Agreement Prices

GEO. W. MOORE F. W. CHAPMAN

THE MIGRATORY STATE

(Continued from page 343)

I believe we spoil more combs than the stationary apiarist.

All other moves that we may make are done in much the same manner as above, and none of it is play. We get so we can sleep as we ride (all but the driver) and change off at the wheel at intervals, just to avoid an accident caused from a sleepy driver.

If everything goes well the moving is really not so bad after you get used to it, but when things go wrong it's a different story. Even with the best of trucks we have accidents. It was only last spring that we had the generator and fan go through the radiator of our truck just as we reached the summit of the famous Ridge Route. We had on a load of 160 single-story colonies. It was almost daylight, and we had 50 miles to go to our destination. There was only one thing to do and that was find a place, and that soon, to unload and get the bees off the highway. We coasted, using the motor as little as possible, for several miles, then we found a place where we could get off the road a little way and there we made "an emergency landing." The truck was repaired that day and we "picked up" the load that night and went merrily on our way.

On one other occasion that I well remember, we got into a certain location over a road that became a "bog

(Continued on page 388)

DIAMOND

HONEY FOR SALE
PACKED OR BULK
A CAN OR A CARLOAD
THE DIAMOND MATCH CO.
Chico, California

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS.

Bright ITALIAN QUEENS by Return Mail

Owing to our special breeding and selecting method we have a bright strain of Italian bees that swarm less, build up fast and are good honey-gatherers. If honey is your object, order NORMAN'S QUEENS. All queens are guaranteed to be pure mated and to give perfect satisfaction or your money back.

Young laying queens, each.....$ .50
Tested queens, each..... 1.00
2-lb package bees with young queen..... 1.95
3-lb. package bees with young queen..... 2.55

Queens by parcel post, postage paid. Packages by express, F. O. B. State Inspection Certificate. No stamps accepted.

NORMAN BEE COMPANY, LaPine, Ala.

Package Bees and Queens

QUALITY BRED ITALIANS

Larger Supply ~ Bred for Business ~ None Better ~ Same Price

PRICES, ANY QUANTITY

Untested Queens, each	$ .50
Tested Queens, each	1.00
2-lb. pkg. bees with queen, each	1.95
3-lb. pkg. bees with queen, each	2.55
2-lb. pkg. bees without queen, each	1.45
3-lb. pkg. bees without queen, each	2.05
For each additional pound of bees add	.60

We are prepared to handle your orders for any quantity satisfactorily. Special care is given to the selection of breeding stock for improved quality. If honey is your object, give our bees a trial. Have no desire to sell close and will not book more than we can do. Full weights, freedom from disease, safe arrival and satisfaction guaranteed. Prospects indicate a heavy demand and orders should be booked now. Do not get left, order from this advertisement now and save time.

York Bee Co., Jesup, Georgia

(The Universal Apiaries)

We can make immediate shipment

Fresh From Our Yards

Package Bees and Queens

Select Untested Queens	$ .50
Tested Queens	1.00
2-lb. pkg. Bees and Queen	1.95
3-lb. pkg. Bees and Queen	2.55
Each additional pound bees	.60

For queenless packages, deduct price of queen.

Discount to dealers allowed.

Citronelle Bee Co.

J. T. HAERTEL, Mgr.

Citronelle, Ala.

ITALIANS
CAUCASIANS

Place your order where you will be sure of the best of service and stock.

QUEENS ..... 50 cents each

2-pound packages, with queens ..... $1.95 each

3-pound packages, with queens .... $3.15 each

For queenless packages deduct the price of the queen.

Discount to dealers

Weaver Apiaries

Navasota, Texas

XUM

Lady - Like Caucasians

The World's Gentlest Bee

• • •

Select young queens, 50c each for the remainder of the season. If you want genuine MOUNTAIN GREY CAUCASIANS.

• • •

Caucasian Apiaries

Brooklyn, Alabama

is the place to get them.

NORMAN BROS.'

Choice Italian Queens

By Return Mail

• • •

Our many years of careful selecting and breeding enable us to offer you queens and bees with all the good qualities that money can buy, such as honey production, thriftiness, gentleness, size and color. When you introduce NORMAN BROS.' queens you may feel most assured you have a good queen that will do her duty. Our aim is, "if better queens and bees are to be reared, we will rear them." Every queen guaranteed purely mated, safe arrival and satisfaction.

PRICES

Untested queens, each.....$ .50
2-lb. pkg. with young queen, each..... 1.95
3-lb. pkg. with young queen, each..... 2.55
All packages F. O. B. express.

• • •

Norman Bros.' Apiaries

Ramer, Alabama

THE MIGRATORY STATE

(Continued from page 386)

hole" after a winter of rain and we "bogged down" six times with one load of bees, and turned the truck over once. I often thought of what Sherman said about war and felt that the same statement would apply to bee moving.

There are also other things that arise to take the joy out of life. Sometimes we get located on the wrong piece of property and have to pick up and move. Then we sometimes find that we have located just over the hill from some other apiary that we did not know was there, and for our own good we move on. I remember one occasion on waking up in the morning ready to unload, seeing another truckload of bees within two hundred yards of ours also ready to unload. This time, however, the other fellow had to make the move.

It's all a gamble, and sometimes we win, but we know that we stand just as big a chance of losing. It's a wonderful occupation if you don't weaken. You have the outdoor life that you read about, the change of scenery from one location to the next, and that "chance" of making the big crop you have dreamed of. So, as much as we hate it, we love it all, and some of us will be moving bees as long as there is a "greener pasture" just over the next hill.

California.

Italian Queens From Selected Stock

Twenty-three years' observations as Apiary Inspector convince me that good Italians will best serve the purpose of the average beekeeper.

For fifteen years the New Jersey Apicultural Experiment Station has been breeding, testing and selecting Italian bees for European foulbrood resistance and high honey yields.

Queens reared from this stock are offered for sale this season.

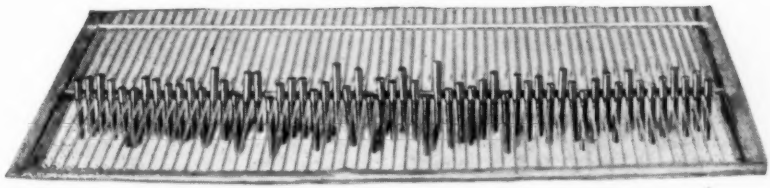
For more than twenty-five years Mr. Robert B. Spicer, Wharton, New Jersey, has been breeding and selecting Italian queens. He has discontinued commercial queen-rearing but has continued selecting. Choice breeders of this stock also will be used for queen-rearing this season.

Prices:

Experiment Station stock, each....$ .75
Spicer stock, each..... 1.00

E. G. CARR, Pennington, N. J.

Are . . . You . . . Buying a Honey Excluder?



Welded Wire Queen Excluder with Inaccurate Spaces
AS SHOWN BY THE TAPER PIN GAUGES

50% OF THE SPACES WILL EITHER PREVENT WORKER BEES FROM PASSING THRU OR WILL PERMIT THE QUEEN TO GO THRU.

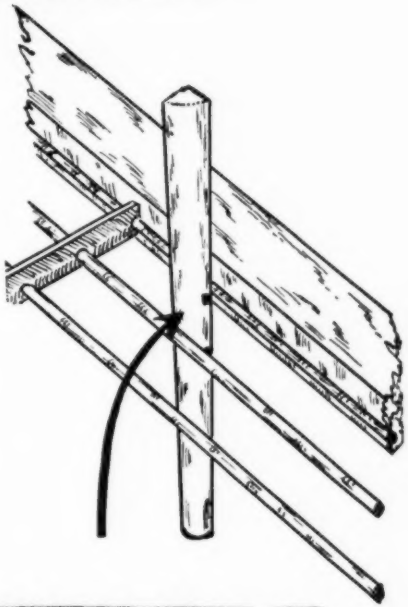
• • •

NOTE—The Root Company spent over $1000.00 in attempting to weld an accurate Queen Excluder. One of the largest wire welding concerns stated that it was impossible to weld wires and keep the variation of spacing within 6 1000ths of an inch.

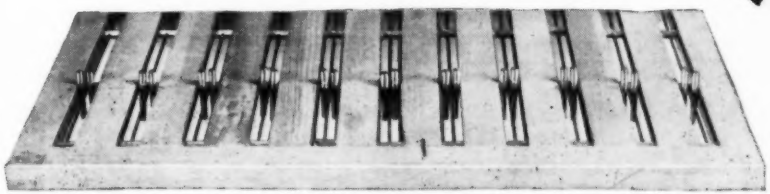
• • •

or a---

Queen Excluder?



TAPER PIN SHOWS PROPER SPACING



Root Wood and Wire Excluders Accurate
(ALL SPACES ARE EVEN AS SHOWN)

NOTE—Bees prefer to walk on wood and there is plenty of ventilation to take care of the possible air passing between the combs. The heavy steel forms hold the wire absolutely at proper spacing (158 to 164 1000ths of an inch) and there is little chance for propolis or burr-comb to distort the wires.

Send a 3c Stamp to P. O. Box H-4 for a Root Queen Excluder Tester

The A. I. Root Co.
Medina, Ohio, U. S. A.

Root QUALITY BEE SUPPLIES

Root Service
FROM CHICAGO

THE HARVEST

What will the harvest be?

To produce bees, to gather nectar, and make honey is the part of the bees.

To provide for and make convenient conditions is the part of mankind.

For results the bees demand:

Seasonal Capacity Hives
Food-Chamber Hives
Efficient Combs
Three-Ply Foundation
Correct work-room
Root Quality Hives & Supers

The bees are pleased with Root Quality.

This business stands ready to help you. Write us your query about bees or equipment needed. Root's new 1937 catalog is free.

A. I. Root Co. of Chicago
224 West Huron St.
CHICAGO, ILL.

CARNIOLAN & AUSTRIAN QUEENS

Our queens are hardy, gentle, prolific, great honey-gatherers, builders of very white combs. Use mostly wax in place of propolis. No foulbrood here. No package bees.

Untested Queens, June 1 to Nov. 1, 50c.

A. M. MIDDLETON, FORT EDWARD, N. Y.

PATENTS—Williamson & Walton

Attorney for The A. I. Root Co.

Munsey Bldg. Washington, D. C.

Palmetto Quality Queens

Mr. Beekeeper, do the Queens you buy have a good name? If not, why not?

"This stock of Queens proved to be the most satisfactory of any we have ever purchased in such quantity. Signed, Maxwell Brothers, Lynchburg, Virginia."

These gentlemen do business in a big way and know good bees when they see them. Let us suggest that you take their advice and try at least one small order.

Prices; balance of season, 50c each, with a 15% discount to dealers. Three-bands Italians only. Prompt shipments, no disease.

C. G. ELLISON & SONS
Belton, S. C.

Service from Syracuse

Large and complete stocks of Root Quality beekeepers' supplies for prompt shipment.

ROOT'S THREE-PLY FOUNDATION—New York State beekeepers used three carloads of 3-ply in 1936. The large users tell us that one three-ply comb is worth two of any other make.

BEES AND QUEENS—We furnish bees and queens from the best breeders. Let us quote on your requirements.

BEESWAX—We pay the market price in cash, or 2c a pound more when proceeds are taken in trade. Send your old combs and cappings to be rendered in our up-to-date steam presses.

No order is too large or too small for our attention. Special discounts on orders for $50 or more. Our 1937 catalog is yours for the asking.

A. I. Root Co. of Syracuse
Midland Ave. and Tallman St.
SYRACUSE, N. Y.

Serves You Best

In
Silver it is Sterling
Automobiles it is Packard
Hats it is Stetson
Queens it is Cutts

2-lb. pkg. with queen.....$1.95
3-lb. pkg. with queen..... 2.55
Untested queens..... .50

J. M. CUTTS & SONS
Rt. 1. Montgomery, Ala.

QUEENS!

FINE ITALIAN STOCK, 50c each
Satisfaction guaranteed.

JUNE PACKAGES

2-lb. with queen, each.....$1.95
3-lb. with queen, each..... 2.65

J. F. McVAY
Jackson Alabama

"We have discarded steam and power knives and have chosen the Rosedale Steam Uncapping Plane entirely in our honey house." Yours truly, Dadant & Sons, Hamilton, Ill.

WRITE FOR FREE BOOKLET TO DEALERS

G. B. Lewis Co., Watertown, Wis.; Dadant & Sons, and all Lewis-Dadant dealers. C. W. Aeppler, Oconomowoc, Wis.; A. G. Woodman, Grand Rapids, Mich.; Stover Apiaries, Mayhew, Miss.; The Diamond Match Co., Chico and Los Angeles, Cal.; Superior Honey Co., Ogden, Utah; A. E. Wright & Sons, Nampa, Idaho; F. W. Jones & Son, Bedford, Quebec, and Guelph, Ont.; T. Eaton Co., Winnipeg, Man.; Bathgate & Davie, Winnipeg, Man.; Saskatchewan Beekeepers' Association, Regina, Sask.; S. P. Hodgson & Sons, New Westminster, B. C.; R. Steele & Brodie, Wormit, Dundee, Scotland; The Alliance Bee Supplies Co., Dunedin, N. Z.; Beekeepers' Association, New South Wales, Australia.

Rosedale Hutterian Mutual Corp.
ELIE, MANITOBA

Moore's Strain

LEATHER COLORED ITALIAN QUEENS—SUPERIOR STOCK

50c Each

World-wide reputation for honey-gathering, hardiness, gentleness, etc., since 1879. Safe arrival and satisfaction guaranteed.

J. P. MOORE
Morgan Kentucky, U. S. A.

Australian Beekeeping News
The Leading Bee Journal of the Southern Hemisphere is the
"Australasian Beekeeper"

Subscription 5 shillings per year. Start any time. Inquire for International Money Order for five shillings (Australian) at your Post Office.
Write now to The Editor, P. O. Box 20, West Maitland, New South Wales, Australia.

Factory Service!

Root QUALITY BEE SUPPLIES

98% of Orders Shipped the Same Day

Swarming colonies—Supers filling up—More room needed in a hurry?

Send your order to Council Bluffs. Large stocks being increased daily are ready to rush your order to you.

Eight main trunk line railroads and a score of truck lines give the best of service in all directions.

The A. I. Root Company of Iowa
COUNCIL BLUFFS, IOWA

We Have the Price!

YOU CAN SAVE MONEY
ON YOUR BEE SUPPLY ORDER
WE ARE DISTRIBUTORS OF

Root QUALITY BEE SUPPLIES

INCLUDING THEIR FAMOUS
MAIL ORDER BRAND
LET US QUOTE YOU ON
YOUR SEASON'S REQUIREMENTS
BEESWAX WANTED
FOR CASH OR TRADE

M. H. HUNT & SON
510 N. CEDAR
LANSING, MICH.

XUM

WHO WANTS THEM?

5000 packages of bees and 10,000 queens ready for June deliveries.

Merrill's Quality Bees and Queens

Have stood the test for 27 years. Try them, they will please you, too.

2-lb. package Italian Bees with Queen, each,.....$1.95
3-lb. " " " " " " 2.55
Untested queens, any number, each..... .50
Tested queens, any number, each..... 1.00

Orders filled promptly. 15% discount to dealers.

MERRILL BEE COMPANY

BUCATUNNA **MISSISSIPPI**

Mississippi's Oldest Shippers

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